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UNIVERSAL DOCUMENTATION SYSTEM

INTERNATIONAL SPACE STATION ORBITAL VOL-I

PRD/PSP/OR/OD

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INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 1000 - ADMINISTRATIVE

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD:	575435	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	02/16/04
		INITIAL DATE:	
ITEM NUMBER:	T1	DATE LAST CHANGED:	02/16/04
SECTION:	1000	TIME LAST CHANGED:	15:09:46
REQUESTER:	JSC		
TEST CODE:	INFO		

1. DESCRIPTION: PREFACE

The UDS document 501-97, Volume2, Section 2 "PRD/OR Preparation Instructions" is the prime guideline for administrative Procedures in preparation of the Station Operation CORE PRD except for the following items.

1. Section 1052 - Item Number Definition: The Item Number system employed herein constitutes a deviation from the UDS Item Numbering recommendations. These deviations are explained in the 1052 section.
2. Section 1051 - Test Codes: Reference Section 1051 for Test Code rationale.

ADMINISTRATIVE INFORMATION

An agency support requirement documented herein requires a response from the specified supporting agency(s). Requesting and supporting agencies are identified by item number coding found in block 8 of each page. Requirements are in Sections 2000 - 6000. Agency response should follow guidelines prescribed in Volume II of the Universal Documentation System (UDS), Document 501-97, published by the Range Commanders Council Documentation Group. Each center/agency submits it's responses to station requirements through the R&R Manager at that center/agency for coordination.

For NASA organizations - George D. Phillips
EX-NAM
NASA/AF Management Office
Kennedy Space Center, FL 32899

For all others - Secretariat
Range Commanders Council
Attn: STEWS - SA - R

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[PRD] DATABASE RECORD: 575435
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White Sands Missile Range, NM 88002

[PRD] DATABASE RECORD: 575436 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/16/04
INITIAL DATE:
ITEM NUMBER: T2 DATE LAST CHANGED: 02/16/04
SECTION: 1000 TIME LAST CHANGED: 15:37:38
REQUESTER: JSC
TEST CODE: INFO

1. DESCRIPTION: AUTOMATED SUPPORT REQUIREMENTS SYSTEM

The Automated Support Requirements System (ASRS) is an intercenter/ agency electronic data processing and transmission system for the communication of support requirements/support responses between NASA and DOD centers/agencies for the Space Transportation System and Cargo element.

The electronic Transmission feature of the system permits immediate dissemination of requirements and support information to all users. The data base storage feature provides display of this information in user familiar formats.

DATA BASE - The ASRS Data base is a Client Server Application located at KSC. The data base consists of a series of logically independent data bases which include:

- 1) Launch & Landing Data Base - Shuttle (LLS)
- 2) Launch & Landing Data Base - Payload (LLP)
- 3) Launch & Landing Data Base - Station Payload (SSL)
- 4) Flight Data Base - Shuttle (FLT-I)
- 5) Flight Data Base - Payload (FLT-II)
- 6) Space Station Data Base - Core (ISS VOL-I)
- 7) Space Station Data Base - Payload (ISS II)

Each individual data base is managed by the appropriate SRS Data Base Manager who has total responsibility for management of the data base. Each data base contains only the support requirements and support responses associated with that operating element.

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The ASRS should greatly reduce the need for distribution of hardcopies of requirements documents. Every center/organization may now retrieve the requirements of interest and print/distribute them at each center/organization.

[PRD] DATABASE RECORD: 575437 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/16/04
INITIAL DATE:
ITEM NUMBER: T3 DATE LAST CHANGED: 02/16/04
SECTION: 1000 TIME LAST CHANGED: 15:48:42

REQUESTER: JSC
TEST CODE: INFO

1. DESCRIPTION: DEFINITION OF STATION SUPPORT REQUEST (SSR) NUMBER

The subrequester field is used to reference the Routine Support Requirement/Station Support Requirement (RSR/SSR) number; i.e.,

SUBREQUESTER	DESCRIPTION
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SXX-YY-Z	S = STATION
	XX = YEAR OF CHANGE
	YY = MONTH OF CHANGE
	Z = SEQUENCE NUMBER

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SECTION 1031 - INDEX

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SECTION	TITLE
1000	ADMINISTRATIVE
1031	INDEX
1050	ABBREVIATIONS/ACRONYMS
1052	SPECIAL CODE DEFINITION
1100	PROGRAM DESCRIPTION
1405	TEST VEHICLE INSTRUMENTATION FREQUENCY SUMMARY
2000	TEST REQUIREMENTS/SUPPORT PLANS
2100	METRIC DATA
2200	TELEMETRY DATA
2300	COMMAND SYSTEMS
2700	COMMUNICATION
2710	AIR/GROUND VOICE COMMUNICATIONS
2730	VOICE NETWORK TRANSMISSION
2734	VIDEO/DATA NETWORK TRANSMISSION
2750	VOICE TERMINATIONS
2770	TELEPHONE
2800	VIDEO
3410	OTHER TECHNICAL SUPPORT - AIRCRAFT

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SECTION 1050 - ABBREVIATIONS/ACRONYMS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD:      533564      REQUIREMENT STATUS: APPROVED
DOCUMENT ID:                ISS VOL-I    APPROVAL DATE:      08/15/06
                                     INITIAL DATE:      08/23/96
ITEM NUMBER:                T1          DATE LAST CHANGED:  08/15/06
SECTION:                    1050        TIME LAST CHANGED:  09:22:02

REQUESTER:                  JSC
TEST CODE:                  INFO
TRACKING NO.                S01-02-2    S01-05-5    S05-02-4    S609-1    S804-1
                             S905-1     S911-1
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1. DESCRIPTION: ACRONYMS AND ABBREVIATIONS

ACBPS	Assembly Contingency Base band Signal Processor
ACS	Assembly Contingency Subsystem
AIS	Automated Information System
ALTEC	ASI Spaziolo Italiana (Italian Space Agency)
APS	Automated Payload Switch
ARC	Ames Research Center
ASI	Agenzia Spaziolo Italiana (Italian Space Agency)
ASRS	Automated Support Requirements System
ATV	Automated Transfer Vehicle
C&C	Command and Control
CCSDS	Consultative Committee for Space Data Systems
CIR	Committed Information Rate
COR	Communications Outage Recorder
CSA	Canadian Space Agency
C&T	Communications and Tracking
CVT	Current Value Table
DFRC	Dryden Flight Research Center
DoD	Department of Defense
DSMC	Data Service Management Center
ESA	European Space Agency
ESR	Engineering Support Room
ESTL	Electronic Systems Test Laboratory
EVA	Extravehicular Activity
FDF	Flight Dynamics Facility
FEL	First Element Launch
GCMR	Ground Configuration Message Request
GN	Ground Network
GRC	John Glenn Research Center at Lewis Field
GSE	Ground Support Equipment
GSFC	Goddard Space Flight Center
HOSC	Huntsville Operations Support Center

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HSG	Houston Support Group
HTV	H-II Transfer Vehicle
H&S	Health and Status
ICD	Interface Control Document
IOS	Instructor Operator Station
IP	International Partner
	Internet Protocol
IPS	Integrated Planning System
ISO	International Station Orbital
ISS	International Space Station
JAXA	Japan Aerospace Exploration Agency
JSC	Johnson Space Center
Kbps	Kilobits per second
KSA	Ku-band Single Access
KSAF	Ku-band Single Access Forward
KSAR	Ku-band Single Access Return
KSC	Kennedy Space Center
LaRC	Langley Research Center
LM	Lockheed Martin
LOR	Line Outage Recorder
LSOS	Limited Station Operation Support
Mbps	Megabits per second
MCC-H	Mission Control Center - Houston
MCC-M	Mission Control Center - Moscow
MDM	Multiplexer Demultiplexer
MEIT	Multi-Element Integration Test
MMT	Mission Management Team
MSFC	Marshall Space Flight Center
NACAIT	Network and Communications Analysis and Integration Team
NASA	National Aeronautics and Space Administration
NASDA	National Space Development Agency (Gateway)
NCC	Network Control Center
NCCDS	Network Control Center Data System
NCHD	Non-Critical Highly Desirable
NIB	Non-Interference Basis
NIC	Network Integration Center
NISN	NASA Integrated Services Network
NLT	No Later Than

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[PRD] DATABASE RECORD: 533564
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NMI	NASA Management Instruction
NPRD	Network Program Requirements Document
NTSC	National Television Standards Committee
OCA	Orbiter Communications Adapter
OCMS	Operations Control Mission Software
OND	Operational Need Date
OSF	Office of Space Flight
P/B	Playback
PDSS	Payload Data Services System
PEHG	Payload Ethernet Hub/Gateway
PEP	Payload Executive Processor
PES	Payload Executive Software
PID	Program Introduction Document
PN	Pseudorandom Noise
POIC	Payload Operations Integration Center
PPS	Payload Planning System
PTC	Payload Training Capability
RAPS	Remote Area for Payload Support
RMPSR	Remote Multi-Purpose Support Room
RPI	Remote Principal Investigator
RS	Russian Segment
RSA	Russian Space Agency
RT	Realtime
SDIL	Software Development Integration Laboratory
SGS	Space to Ground Subsystem
SM	Service Module
SN	Space Network
SRS	Support Requirements System
SSA	S-band Single Access
SSAF	S-band Single Access Forward
SSAR	S-band Single Access Return
SSCC	Space Station Control Center
SSP	Space Station Program
SSPF	Space Station Processing Facility
SSTF	Space Station Training Facility
STS	Space Transportation System
TBD	To Be Determined
TBS	To Be Supplied
TCP	Transmission Control Protocol

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TDRS	Tracking and Data Relay Satellite
TDRSS	Tracking and Data Relay Satellite System
TOC	TDRSS Operations Control Center
TOPO	Trajectory Operations Officer
UDP	User Datagram Protocol
UDS	Universal Documentation System
UF	Utilization Flight
UPD	User Performance Data
USGS	United States Ground Segment
USOS	United States On-Orbit Segment
VHF	Very High Frequency
VoIP	Voice over Internet Protocol
WAN	Wide Area Network
WFF	Wallops Flight Facility
WSC	White Sands Complex
ZOE	Zone of Exclusion

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SECTION 1052 - SPECIAL CODE DEFINITION

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD:      533731      REQUIREMENT STATUS: APPROVED
DOCUMENT ID:                ISS VOL-I    APPROVAL DATE:      12/15/99
                                     INITIAL DATE:      08/23/96
ITEM NUMBER:                T1          DATE LAST CHANGED:  07/03/02
SECTION:                    1052        TIME LAST CHANGED:  08:10:43

REQUESTER:                  JSC
TEST CODE:                  INFO
TRACKING NO.                S609-1      S912-1
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1. DESCRIPTION: AGENCY DESIGNATORS

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WSMR      A - White Sands Missile Range
GRC        B - Glenn Research Center
NWS        C - National Weather Service
DOD        D - Department of Defense
           E - 45 SPW (Space Wing)Formerly ESMC
AFFTC      F - Air Force Flight Test Center
GSFC       G - Goddard Space Flight Center
MSFC       H - Marshall Space Flight Center
LaRC       I - Langley Research Center
JPL        J - Jet Propulsion Laboratory
KSC        K - Kennedy Space Center
NWC        L - Naval Weapons Center
ARC        M - Ames Research Center
NAWC       N - Naval Air Warfare Center Weapons Division
NOMTS      O - Naval Ordnance Missile Test Station
MSD        P - Munitions Systems Division
WFF        Q - Wallops Flight Facility
ERDC       R - Electronic Research and Development Command
AFSCN      S - Air Force Satellite Control Network
JSC        T - Johnson Space Center
ASDC       U - U. S. Army Strategic Defense Command
KMR        V - Kwajalein Missile Range
           W - 30 SPW (Space Wing)Formerly WSMC
DFRC       X - Dryden Flight Research Center
NASA       Y - National Aeronautics and Space Administration (NASA)
           Headquarters
WSTF       Z - JSC White Sands Test Facility
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1. DESCRIPTION: OPERATIONAL CONCEPTS - GENERAL

The ISS on-orbit activities are supported by an operations and utilization framework which is designed to ensure manageable and safe operations that promote the basic goal of productive and flexible utilization by the ISS user community. The crew, ground controllers, ground maintenance personnel, and ground processing personnel perform the functions needed to operate and sustain the orbiting facility. A community of scientists, engineers, and commercial entities participate in and benefit from the Program by using its unique capabilities to promote scientific discovery and to develop new technologies.

The ISS is operated by the crew, onboard automation, and ground controllers. The ISS has a 24-hour autonomous capability to protect critical systems, vehicle integrity, and crew survival. The crew will have sufficient data and command capability to control subsystem operations and payload operations in order to continue human-tended utilization and vehicle operations during loss of communication with the ground facilities, or to respond to vehicle failures and contingencies. Crew tasks include support for payload operations, visiting vehicle operations, extravehicular activity (EVA), robotics, and onboard maintenance.

A team of personnel located on the ground assists the ISS in its real-time operation by planning, monitoring, and controlling ISS activities. In parallel with real-time activities, ground teams process reusable logistics modules, prepare visiting vehicle with necessary logistics, integrate the next set of payloads, and plan and conduct training for the next several increments.

OPERATIONS

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SECTION 1100 - PROGRAM DESCRIPTION

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[PRD] DATABASE RECORD: 534319
ITEM NUMBER: T1DEGHKX

The ISS on-orbit operations consists of the spacecraft system related activities will be performed by the ISS ground operations support at NASA field centers and the International Partners (IP) facilities. Efficient communication among ground facilities is vital to mission success. The program will require operational and administrative links as appropriate for facilities and functions including those outlined below:

Spacecraft systems support and mission planning and integration related activities will be performed by the ISS ground operations support at NASA field centers and the International Partners (IP) facilities. Efficient communication among ground facilities is vital to mission success. The Program will require operational and administrative links as appropriate for facilities and functions including those outlined below:

- o Space Station Control Center (SSCC): The SSCC is the ISS portion of the Mission Control Center - Houston (MCC-H) located at the Johnson Space Center (JSC). It will be host to the Mission Management Team (MMT) and the overall ISS Flight Director, and it will provide functionally for overall planning and command and control of vehicle operations and flight safety, integrated across all IP elements. The SSCC will also function as the facility for the U.S. Flight Control Team to perform more detailed command and control of the U.S. elements, including planning, maintenance, etc. The SSCC will require communications services to support these operations responsibilities. Real-time systems operations data will flow between the SSCC and the ISS. Vehicle systems data, planning data, voice, and video will flow between JSC and various U.S. and IP ground facilities.
- o Mission Control Center - Moscow (MCC-M): The MCC-M, at Korolev, Russia, under the oversight of the MMT and in coordination with the SSCC, is responsible for the launch, rendezvous, docking, and on orbit operations of Russian elements and vehicles. The MCC-M is responsible for control of selected core systems functions else where in the ISS, both in nominal and SSCC back-up scenarios. These functions will primarily use the Russian communications and tracking (C&T) resources, but may also be performed via the interface

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[PRD] DATABASE RECORD: 534319
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to the SSCC and it's space-to-ground communications systems.
Interfaces are required between the SSCC and the MCC-M for data,
voice, and video.

- o Huntsville Operations Support Center (HOSC) - The HOSC, located at Marshall Space Flight Center (MSFC), provides the operational environment for all MSFC-supported space programs. It incorporates all systems required to perform data acquisition and distribution, telemetry processing, command services, database services, mission support services, and system monitoring and control. The Payload Operations Integration Center (POIC), located in the HOSC, will require communications services to support all utilization flights and all other increments supporting payload installation and operations during assembly phase. The POIC will exchange real-time data with geographically distributed user facilities in the U.S. and at IP locations. Payload commands and other data will be routed from the user operations facilities to the POIC for integration into the forward link command stream at the SSCC. The Payload Data Services System (PDSS), located in the HOSC, will be responsible for payload data processing and distribution. The PDSS will require communications services to receive ISS telemetry data and distribute payload data to user facilities in the U.S. and at IP locations. Communications requirements contained in this document for the POIC, PDSS, Remote Area for Payload Support (RAPS), and other MSFC operational facilities are routed through the HOSC.
- o Telescience Support Center (TSC): The TSC is a NASA funded facility which provides the capability to plan and operate on-orbit facility class payloads and experiments, other payloads and experiments, and instruments.
- o International Partners (IP) Facilities: The IP facilities are responsible for the coordinated command and control of IP systems and payloads. Data relating to IP ISS systems and experiments will be transferred to and from the Italian Space Agency (ASI), CSA, ESA, and JAXA. The IP's will provide communications services from designated termination point to their facilities. (NOTE: Due to contractual agreements, the Japanese's Gateway is still officially known as the National Space Development Agency of Japan (NASDA))

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Gateway).

- o Training Facilities: Training facilities, including the Space Station Training Facility (SSTF) and the Payload Training Facility (PTF) at JSC, will provide ISS core systems and payload systems training for Program crews, ground support personnel, and users. This will require communications services to transfer Instructor Station data and simulated Space Station data, voice, and video.
- o Automated Transfer Vehicle (ATV) Control Center (ATVCC): The ATV-CC, hosted by the Centre National d'Etudes Spatiales (CNES) in Toulouse, France, on behalf of the European Space Agency (ESA), contains the monitoring and control systems for operating the ATV from Launch to docking, during attached phases and from de-docking to destructive re-entry. For communications, the ATV spacecraft relies on both the TDRS System and ARTEMIS (Advanced Relay and Technology Mission Satellite). The ATV operations are agreed upon and described in "ATV Flight Planning Ground Rules & Constraints". The interface between the ATV-CC and SSCC are agreed upon and described in the SSCC to ESA GS ICD Part I and II (SSP 450011).
- o H-II Transfer Vehicle (HTV) Control Center (HTVCC): The JAXA H-II Transfer Vehicle (HTV) Control Center (HTCC) will be located in the Space Station Integration and Promotion Center (SSIPIC) in Tsukuba Space Center, Japan. The HTVCC will monitor and control the HTV from launch to ISS berthing, during attached phases of operations and from unberthing to destructive re-entry. During all phases of operation, the HTVCC will control the HTV spacecraft while under the authority of SSCC during critical approach, berthing, attached, and unberthing phases. The main functions of the HTVCC are flight planning, flight control, training and test, and interfaces to the external operational organizations. HTVCC flight planning will include trajectory planning, flight evaluation for sequence of events, and mission analysis. Re-planning will also occur in the HTVCC for contingencies during real-time operations. HTVCC flight control includes telemetry processing and command generation. The flight control function will supply functions to assist "GO/NO GO" judgement of the operator such as calculation of error ellipsoid to judge possibility of collision between HTV and ISS evaluation of

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flight status based on HTV telemetry, and evaluation of flight status after maneuvers. The HTVCC will house the functionality to perform HTV Training and Test. The training and test support will develop HTVCC training scenario and closed loop training using simulation software. Simulation capability will include GNC on-board software modeling, Sensor/Actuator mathematical modeling, environmental modeling (HTV dynamics, ISS dynamic, disturbance, etc) and, communication systems model (On-board and ground systems) for both TDRS link and ISS link.

The HTVCC interfaces with SSCC via JEM Network System for HTV flight planning, command and telemetry for TDRS and ISS link, video, voice loops between HTVCC, SSCC and onboard crews related to HTV operations.

The HTVCC will also house interface equipments for CCSDS processing for HTV command and telemetry for TDRS link. The HTVCC also interfaces with the launch site for HTV launch operation.

- o White Sands Complex (WSC): The WSC located in Las Cruces, New Mexico is the facility that houses the ground segment elements of the Tracking and Data Relay Satellite System (TDRSS). One element of the ground segment is the TDRSS Operations Control Center (TOCC). The TOCC controls and monitor the TDRSS spacecraft fleet and monitors TDRSS performance during active customer services.
- o Data Services Management Center (DSMC): The DSMC located at the WSC provides scheduling, controlling and monitoring of the SN. This function includes control of all available network resources, schedule processing, conflict resolution, performance monitoring/fault isolation and acquisition data dissemination. These functions allow the SN users to receive User Performance Data (UPD), transmit Ground Control Messages Request (GCMR) and schedule SN services.
- o Network Integration Center (NIC): The NIC is located at the Goddard Flight Center (GSFC), Maryland. The NIC will monitor ISS activities as required such as Soyuz launch/docking, ISS mission critical periods, and ISS VHF ground station support.
- o Flight Dynamics Facility (FDF): Located at GSFC in Greenbelt, Maryland, the FDF will provide state vector data and tracking data

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evaluation support for the ISS, ATV, and HTV missions. The FDF also has the ability to provide orbit determination support if required. Real-time support is also provided for Space Shuttle missions and Launch Vehicles (ELV). Additional support is provided for TDRSS performance assessment for the STDN/TDRSS System using tracking data from the ISS, Space Shuttle, scientific satellites, and special test. TDRSS support includes state vector generation, orbit determination, tracking data evaluation, spacecraft maneuver support and testing to verify and improve TDRSS pointing accuracy. The FDF also provides spacecraft planning products to the DSMC and other spacecraft and launch vehicle control centers.

SUPPLIER: DDMS	AGENCY: DDMS/X	(DEPARTMENT OF DEFENSE)
SUPPLIER COMMITMENT: INFO	WILL COMMIT	RESPONSE DATE: 02/10/05
SUPPLIER: ER	AGENCY: 45 RANS/DOS	(E - 45TH SPACE WING)
SUPPLIER COMMITMENT: INFO	WILL COMMIT	RESPONSE DATE: 02/10/05
SUPPLIER: GSFC	AGENCY: GSFC/451	(GODDARD SPACE FLIGHT CENTER)
SUPPLIER COMMITMENT: INFO	WILL COMMIT	RESPONSE DATE: 04/06/05
SUPPLIER: MSFC	AGENCY: MSFC/EO60	(MARSHALL SPACE FLIGHT CENTER)
SUPPLIER COMMITMENT: INFO	WILL COMMIT	RESPONSE DATE: 02/10/05
SUPPLIER: KSC	AGENCY: KSC/PH-B3B	(K - KENNEDY SPACE CENTER)
SUBSUPPLIER:	BOEING P319 KA91-P346 P344	
	UB-E	
SUPPLIER COMMITMENT: INFO	WILL COMMIT	RESPONSE DATE: 02/10/05
SUPPLIER: DFRC	AGENCY: DFRC/XOS	(X - DRYDEN FLIGHT RESEARCH CENTER)
SUBSUPPLIER:	FR	
SUPPLIER COMMITMENT: INFO	WILL COMMIT	RESPONSE DATE: 02/10/05

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[PRD] DATABASE RECORD: 534319
ITEM NUMBER: T1DEGHKX

[PRD] DATABASE RECORD: 553436 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/10/05
INITIAL DATE: 10/07/99
ITEM NUMBER: T2DEGHKX DATE LAST CHANGED: 04/08/05
SECTION: 1100 TIME LAST CHANGED: 09:38:15

REQUESTER: JSC
TEST CODE: INFO
TRACKING NO. S008-1 S05-02-4 S910-1

1. DESCRIPTION: SPACE VEHICLE DESCRIPTION

For the most current Space Vehicle Description, reference the International Space Station Program Baseline Configuration Document (SSP 50037, latest revision).

The Visiting Vehicles (VV's) currently included in the PRD are the Automated Transfer Vehicle (ATV) supplied by the European Space Agency (ESA) and the H-II Transfer Vehicle (HTV) supplied by the Japan Aerospace Exploration Agency (JAXA). The ATV description can be found in SSP 50335, ESA/NASA/RSA Trilateral ATV Demonstration and Nominal Operations Flight Plan and SSP 41160, Segment Specification for the European Space Agency Segment. The HTV description can be found in SSP 50273, Segment Specification for the H-II Transfer Vehicle (HTV).

SUPPLIER: DDMS AGENCY: DDMS/X (DEPARTMENT OF DEFENSE)
SUPPLIER COMMITMENT: INFO WILL COMMIT RESPONSE DATE: 02/10/05
SUPPLIER: ER AGENCY: 45 RANS/DOU (45TH SPACE WING)
SUPPLIER COMMITMENT: INFO WILL COMMIT RESPONSE DATE: 02/10/05
SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)
SUPPLIER COMMITMENT: INFO WILL COMMIT RESPONSE DATE: 04/06/05

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 1100 - PROGRAM DESCRIPTION

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 553436
ITEM NUMBER: T2DEGHKX

SUPPLIER: MSFC AGENCY: MSFC/EO60 (MARSHALL SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: INFO WILL COMMIT RESPONSE DATE: 02/10/05

SUPPLIER: KSC AGENCY: KSC/PZ-H-C (K - KENNEDY SPACE CENTER)
SUBSUPPLIER: KA91-P346 P344

SUPPLIER COMMITMENT: INFO WILL COMMIT RESPONSE DATE: 02/10/05

SUPPLIER: DFRC AGENCY: DFRC/OS (DRYDEN FLIGHT RESEARCH CENTER)
SUBSUPPLIER: FD

SUPPLIER COMMITMENT: INFO WILL COMMIT RESPONSE DATE: 02/10/05

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
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PROGRAM NUMBER: 30000

SECTION 1405 - TEST VEHICLE INSTRUMENTATION FREQUENCY SUMMARY

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD:	553814	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	02/10/05
		INITIAL DATE:	11/09/99
ITEM NUMBER:	T1G	DATE LAST CHANGED:	04/08/05
SECTION:	1405	TIME LAST CHANGED:	09:38:40
REQUESTER:	JSC		
TEST CODE:	CORE		
TRACKING NO.	P911-1	S02-05-4	

1. DESCRIPTION: SPECTRUM MANAGEMENT

OSF shall provide frequency and spectrum management services for all space-to-ground, ground-to-space, and space-to-space transmission links is specified in NASA RF Spectrum Management Manual (NPG 2570), and NASA Policy Directive (NPD)2570.5B.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/06/05

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2000 - TEST REQUIREMENTS/SUPPORT PLANS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD:      533532      REQUIREMENT STATUS: APPROVED
DOCUMENT ID:                ISS VOL-I    APPROVAL DATE:      02/10/05
                                           INITIAL DATE:      08/23/96
ITEM NUMBER:                T1G         DATE LAST CHANGED:  04/08/05
SECTION:                    2000        TIME LAST CHANGED:  09:39:06

REQUESTER:                  JSC
TEST CODE:                  CORE
TRACKING NO.                S008-1      S01-02-2    S01-05-5    S012-1      S02-02-1
                           S03-01-1    S05-02-4    S609-1      S804-1      S905-1
                           S910-1
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1. DESCRIPTION: TRACKING AND DATA RELAY SATELLITE SYSTEM

The Tracking and Data Relay Satellite System (TDRSS) shall support the International Space Station (ISS) Program by providing S-Band and Ku-Band communications. TDRSS S-Band Single Access (SSA), S-Band Multiple Access (MA), and Ku-Band Single Access (KSA) capabilities shall support the various ISS Program Communications and Tracking (C&T) Systems.

Service for three different ISS S-Band systems is required. These systems are the Assembly Contingency Subsystem (ACS) S-Band system, ATV S-Band system, and HTV S-Band system. One SA service is required to support S and K RF links with a second SA service required during critical ISS operations such as rendezvous, EVA, VV launch, and other critical activities.

The ISS ACS SSAF link data rate operates at 72 kbps (High Data Rate mode) or 6 kbps (Low Data Rate mode). ACS SSAR link data rate operates at 192kbps (High Data Rate mode) and 12kbps (Low Data Rate mode).

TDRSS support is required for one ISS Ku-band service (forward and return) starting with the Space to Ground System (SGS) activation on flight 5A.1. The ISS SGS Ku-band return link signal is 50 Mbps containing payload data, video, and on-board recorded telemetry. The Ku-band returned link data rate may be upgraded to 75 Mbps or 150 Mbps after flight 8A.

ISS requires a Ku-band Single Access Forward (KSAF) link service. The KSAF will be either a PN spread signal or a 3 Mbps data modulated signal. The PN spread signal will be used for ISS antenna autotrack operations only and may be any PN code. The Ku-band forward link data rate may be upgraded to approximately 12 Mbps in the future.

CLASSIFICATION UNCLASSIFIED

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SECTION 2000 - TEST REQUIREMENTS/SUPPORT PLANS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 533532
ITEM NUMBER: T1G

The ATV S-Band system operates in MA at 8 kbps return link and 1 kbps forward link. The ATV S-band system operates in SSA at 8 or 64 kbps return link and 1 kbps forward link. The ATV shall require continuous TDRSS forward and return link, including the Zone of Exclusion (ZOE) during critical phases of flight. In addition, ATV will utilize TDRSS covering the attached phase periodically for eight (8) minutes at 8 kbs MA.

The HTV S-band forward link system operates at 250 bps SSA only. No MA forward link is required. The HTV S-band return link system operates in SSA at 8Kbps normal, or 2.0Kbps contingency. The HTV MA return link operates at 2.0Kbps normal. The HTV shall require continuous TDRSS forward and return link, including the Zone of Exclusion (ZOE) during critical phases of flight.

Detailed technical interface requirements and link performance requirements are specified in the ISS to Ground through TDRSS Interface Control Document (ICD) SSP 42018. (Non-continuous TDRSS support will be required for pre-flight testing of each service on a scheduled basis.

The ISS Program requires one dedicated S-band and one KU-band single access service for prime, ISS support with continuous TDRSS coverage except for periods of interruption necessitated by ISS masking, the zone of exclusion (ZOE), or TDRS handover, with limited two SA support during critical events. Critical periods will be defined through negotiations between GSFC Network Director and the ISS Program. Coverage during ZOE transit via the GUAM Remote Ground Terminal (GRGT) is required for all ISS S-band elements, but KSA services are not required during ZOE.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/06/05

CLASSIFICATION UNCLASSIFIED

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[PRD] DATABASE RECORD: 533532
ITEM NUMBER: T1G

[PRD] DATABASE RECORD: 534321 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/10/05
INITIAL DATE: 08/23/96
ITEM NUMBER: T2GT DATE LAST CHANGED: 02/10/05
SECTION: 2000 TIME LAST CHANGED: 11:59:08

REQUESTER: JSC
TEST CODE: CORE FLT 2A
TRACKING NO. S008-1 S01-05-5 S03-01-1 S05-02-4 S609-1
S804-1 S910-1

1. DESCRIPTION: TDRSS GROUND STATION CONFIGURATION

Ground Configuration Message Requests (GCMRs) and GCMR acknowledgements for the ISS shall share the same communications interface as the Shuttle messages of the same type. The SSCC shall provide conflict-free GCMRs and TDRSS link management for all ISS elements including ACS, ATV, and HTV. Refer to the 451 ICD-NCCDS-MOC Annex 10 for detailed interface requirements.

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/10/05

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/10/05

[PRD] DATABASE RECORD: 534322 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 01/30/03
INITIAL DATE: 08/23/96
ITEM NUMBER: T4G DATE LAST CHANGED: 02/16/05
SECTION: 2000 TIME LAST CHANGED: 10:53:29

REQUESTER: JSC
TEST CODE: CORE
TRACKING NO. S008-1 S01-04-2 S03-01-1 S05-02-4 S609-1

CLASSIFICATION UNCLASSIFIED

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PROGRAM NUMBER: 30000

SECTION 2000 - TEST REQUIREMENTS/SUPPORT PLANS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 534322
ITEM NUMBER: T4G

S804-1 S910-1

1. DESCRIPTION: SSCC AND HOSC USER PERFORMANCE DATA MESSAGES (UPD)

User Performance Data (UPD) messages for all ISS simultaneously share the same communications interface as the Shuttle messages of the same type. Refer to the 451-ICD-NCCDS-MOC Annex 10 for detailed interface requirements.

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/28/03

[PRD] DATABASE RECORD: 533534 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 04/08/99
INITIAL DATE: 08/23/96
ITEM NUMBER: T5G DATE LAST CHANGED: 07/03/02
SECTION: 2000 TIME LAST CHANGED: 08:05:12

REQUESTER: JSC
TEST CODE: CORE
TRACKING NO. S609-1 S804-1 S905-1

1. DESCRIPTION: SYSTEM VERIFICATION

GSFC will support a validation/verification process that demonstrates compatibility, technical performance, capabilities, and operational readiness between ISS elements and the TDRSS, GN and VHF communication systems.

The NASA Integrated Services Network (NISN) will support a validation/verification process that demonstrates technical performance, capabilities, and operational readiness of all NISN provided Ground to Ground communications services.

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 05/21/99

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[PRD] DATABASE RECORD: 533534
ITEM NUMBER: T5G

[PRD] DATABASE RECORD: 533537 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 01/30/03
INITIAL DATE: 08/23/96
ITEM NUMBER: HT6G DATE LAST CHANGED: 02/10/05
SECTION: 2000 TIME LAST CHANGED: 13:17:49

REQUESTER: MSFC JSC
TEST CODE: CORE
TRACKING NO. S008-1 S03-01-1 S05-02-4 S609-1 S804-1
S905-1

1. DESCRIPTION: SECURITY REQUIREMENTS

NISN provided communications services shall comply with NASA Procedures and Guidelines (NPG) 2810.1, NASA's Information Technology (IT) Security Program (latest revision). Mission Critical Systems/ Mission (MSN) information, refers to those mission services formerly known as AIS Level 3. Scientific, Engineering, and Research (SER) information, refers to those mission services formerly known as ASI Level 2. In addition, the users of NISN services shall comply with the NMI 8610.11 (latest revision which expired), "Control of Access to Operational Voice Communications Circuits" (and it's eventual replacement policy currently being drafted by JSC/MOD/DA8) to preclude unauthorized access and potential damage to operational systems and user security. Interfacility Control Documents (ICD's) shall address security.

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/28/03

[PRD] DATABASE RECORD: 544759 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 10/07/99
INITIAL DATE: 04/24/98
ITEM NUMBER: T7G DATE LAST CHANGED: 07/03/02
SECTION: 2000 TIME LAST CHANGED: 08:05:36

REQUESTER: JSC
TEST CODE: CORE
TRACKING NO. S804-1 S905-1 S910-1

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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ISO2000.006 PAGE SEQUENCE NUMBER: 24 REF UDS R G/A
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PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 558535
ITEM NUMBER: T11G

[PRD] DATABASE RECORD: 582705 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 05/11/05
INITIAL DATE: 05/11/05
ITEM NUMBER: T12G DATE LAST CHANGED: 05/11/05
SECTION: 2000 TIME LAST CHANGED: 11:37:18

REQUESTER: JSC
TEST CODE: BCC CORE
TRACKING NO. S05-05-1

1. DESCRIPTION: CONTINGENCY TDRSS LINK MANAGEMENT

The GSFC NIC is required to support contingency TDRSS link management in the event of MCC closure as directed by the Flight Control Team. A team of four (4) JSC operations personnel will travel to the NIC to support ISS TDRSS scheduling and communication link management. GSFC will supply space and X-terminals in the NIC to support contingency TDRSS management.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 05/11/05

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

[PRD] DATABASE RECORD: 533540		REQUIREMENT STATUS: APPROVED			
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:		06/23/00	
		INITIAL DATE:		08/23/96	
ITEM NUMBER:	EGT2GT	DATE LAST CHANGED:		02/16/05	
SECTION:	2100	TIME LAST CHANGED:		11:06:10	
REQUESTER:	ER	GSFC	JSC		
TEST CODE:	CORE				
TRACKING NO.	S008-1	S05-02-4	S609-1	S804-1	S905-1
	S910-1				

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PROGRAM NUMBER: 30000

SECTION 2100 - METRIC DATA

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 533541
ITEM NUMBER: T3G

The GSFC FDF shall process ACS S-band, ATV S-Band, HTV S-band, and Ku-Band one way doppler data to be used for determining the operational short and long term stability of the ISS transponders. This processing shall be provided, when scheduled, until transponders frequency shift signatures are established for all S-Band services and the Ku-Band services. Results shall be provided to the SSCC for use in estimating the required frequency information in the TDRSS scheduling and ground control messages.

The responsible Visiting Vehicle control center shall process appropriate data to be used for determining the operational short and long term stability of the transponders. This processing shall be provided when scheduled until transponder frequency shift signatures are established for S-Band services. Results shall be provided to the SSCC, ATVCC, and HTVCC for use in estimating the required frequency information in the TDRSS scheduling and ground control messages.

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 03/14/02

[PRD] DATABASE RECORD: 551187 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 01/25/01
INITIAL DATE: 04/13/99
ITEM NUMBER: GT4G DATE LAST CHANGED: 02/16/05
SECTION: 2100 TIME LAST CHANGED: 11:11:20

REQUESTER: GSFC JSC
TEST CODE: CORE
TRACKING NO. S008-1 S05-02-4 S904-1 S905-1 S910-1

1. DESCRIPTION: ISS STATE VECTORS

The JSC SSCC shall provide, as required, ISS, ATV, HTV, and Soyuz acquisition data to the TDRS via GSFC FDF. The ATV and HTV acquisition data shall be provided by the ATV and HTV control centers,

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[PRD] DATABASE RECORD: 551187
ITEM NUMBER: GT4G

respectively, to the SSCC. State vector formats are specified in
JSC/GSFC Operational Communications ICD for MCC Systems (JSC 11534,
VOL.1, latest revision).

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 01/26/01

[PRD] DATABASE RECORD: 551188 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/11/05
INITIAL DATE: 04/15/99
ITEM NUMBER: GT5T DATE LAST CHANGED: 02/11/05
SECTION: 2100 TIME LAST CHANGED: 09:41:20

REQUESTER: GSFC JSC
TEST CODE: CORE
TRACKING NO. S008-1 S01-02-2 S05-02-4 S905-1 S910-1

1. DESCRIPTION: PRE-LAUNCH, LAUNCH, EARTH ORBIT, and REENTRY PHASES

ESA and JAXA will provide the GSFC FDF (via MCC-H) with electronic
datadefining the launch vehicle trahectory from launch through
spacecraft separation. Since this is a rendezvous, requiring inertial
place targeting, multiple trajectories may be required to define the
trajectory across the launch window. Datais required by launch
minus 90 days.

ESA and JAXA will provide the GSFC FDF (via MCC-H) with electronic
data defining the Visiting Vehicle tryjectory from spacecraft
separation ato rendezvous with the ISS. Data is required by launch
minus 90 days.

Both ascent and post spacecraft separation phases of the mission may
be merged into one electronic trajectory file in a TBD format.

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SECTION 2100 - METRIC DATA

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[PRD] DATABASE RECORD: 551188
ITEM NUMBER: GT5T

Trajectory data is required for pre-mission trajectory analysis and as a source for launch support state vectors. These launch support vectors are required for TDRSS pointing during the launch phase.

During the Orbit phase ESA and JAXA will provide the GSFC FDF with updated electronic trajectory data for ATV and HTV in real-time to maintain TDRS pointing. Vectors should be formatted in accordance with the JSC/GSFC Operational Communications ICD for MCC Systems (JSC 11534, VOL.I, latest revision). GSFC FDF will provide (via MCC-H) ESA and JAXA with an orbit solution with 100 meters, 1 sigma.

During Re-entry phase ESA, JAXA and SSCC will provide the GSFC FDF with electronic data defining the Visiting Vehicle trajectory from undocking through re-entry. The Visiting Vehicle Control Center/SSCC will notify the GSFC FDF 48 hours prior to Visiting Vehicle undocking. Trajectory data is required no later than 4 hours prior to the event. Vectors should be formatted in accordance with the JSC/GSFC Operational Communications ICD for MCC Systems (JSC 11534, Vol. I, latest revision).

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/11/05

[PRD] DATABASE RECORD:	556069	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	01/30/03
		INITIAL DATE:	06/23/00
ITEM NUMBER:	T6EGX	DATE LAST CHANGED:	06/02/05
SECTION:	2100	TIME LAST CHANGED:	13:57:44

REQUESTER: JSC
TEST CODE: CORE
TRACKING NO. S008-1 S02-02-1 S03-01-1

1. DESCRIPTION: C-BAND RADAR SUPPORT

NASA and DoD C-Band radar support is required for ISS free flyer support. Support is currently estimated at approximately 15 passes

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[PRD] DATABASE RECORD: 556069
ITEM NUMBER: T6EGX

per year and will be scheduled as required. Currently, use of C-Band
Metric Data is to support the:

1. Tracking of the Soyuz to provide updated pointing information for
the VHF 2 communications systems at the NASA VHF stations.
2. Other ISS free flying elements as required.

SUPPLIER: ER AGENCY: 45 RANS/DOU (45TH SPACE WING)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/23/04

SUPPLIER: GSFC AGENCY: GSFC/450 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/28/03

SUPPLIER: DFRC AGENCY: DFRC/OS (DRYDEN FLIGHT RESEARCH CENTER)
SUBSUPPLIER: FD

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 06/02/05

[PRD] DATABASE RECORD: 556070 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 01/18/05
INITIAL DATE: 06/23/00
ITEM NUMBER: T7 DATE LAST CHANGED: 02/03/05
SECTION: 2100 TIME LAST CHANGED: 13:21:52

REQUESTER: JSC
SUBREQUESTER: JSC/DM
TEST CODE: CORE INFO JSC/DM
TRACKING NO. S05-01-1 S05-02-1

1. DESCRIPTION: HQ, USSTRATCOM REQUIREMENT

HQ, USSTRATCOM support to NASA Human Space Flight operations will be
provided as specified in the NASA, USSTRATCOM Memorandum of Agreement
and the JSC/STRATCOM Operational Instruction for Human Space flight
Support.

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PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 556070
ITEM NUMBER: T7

REF: Item T42 Section FLT 2100 DBR 198056

[PRD] DATABASE RECORD: 556071 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 12/01/04
INITIAL DATE: 06/23/00
ITEM NUMBER: T8E DATE LAST CHANGED: 08/11/06
SECTION: 2100 TIME LAST CHANGED: 08:58:36

REQUESTER: JSC
SUBREQUESTER: JSC/DM
TEST CODE: CORE JSC/DM
TRACKING NO. S008-1 S04-12-1

1. DESCRIPTION: SSC, USSTRATCOM COMBO REQUIREMENTS

USSTRATCOM is requested to provide conjunction screening (within existing capabilities) of all catalogued objects and NASA Human Space Flight Vehicles. This information should be provided to the Flight Dynamics Officer (FDO) and or TOPO at JSC verbally and in writing as requested.

REF: ITEM T43E FLS2100 DBR 198887

SUPPLIER: ER AGENCY: 1 ROPS/DOU (45TH SPACE WING)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 12/01/04

[PRD] DATABASE RECORD: 578748 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 01/18/05
INITIAL DATE:
ITEM NUMBER: E9T DATE LAST CHANGED: 02/03/05
SECTION: 2100 TIME LAST CHANGED: 13:15:49

REQUESTER: ER
TEST CODE: CORE ISS JSC/DM
TRACKING NO. S05-01-1 S05-02-1

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2100 - METRIC DATA

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

CONTINUED

[PRD] DATABASE RECORD: 578748
ITEM NUMBER: E9T

1. DESCRIPTION: SCC, USSTRATCOM ICV REQUIREMENTS

JSC will provide DOD (SCC, USSTRATCOM) with ephemeris and maneuver information at pre-determined times during each mission and in real time, as deemed necessary, via voice.

NOTE: "Ephemeris to maneuver information will be provided via voice and data messages. A dedicated voice circuit will be available between the JSC DFE console and Cheyenne Mountain Senior Staff Controller.

TECHNICAL CONTACT: Lack Howorth/JSC DM/281 483-2754

REF: Item D44T Section FLT 2100 DBR 200040

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 01/18/05

[PRD] DATABASE RECORD: 579637 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 01/19/05
INITIAL DATE:
ITEM NUMBER: T10E DATE LAST CHANGED: 08/11/06
SECTION: 2100 TIME LAST CHANGED: 08:59:08

REQUESTER: JSC
TEST CODE: CORE ISS JSC/DM
TRACKING NO. S05-01-1 S05-02-1

1. DESCRIPTION: SCC, USSTRATCOM COMBO REQUIREMENTS

USSTRATCOM is requested to provide conjunction screening existing capabilities of all catalogued objects and NASA Human Space Flight Vehicles. This information should be provided to the Flight Dynamics Officer (FDO) and or TOPO at JSC verbally and in writing as required.

Technical Contact: Lack Howorth/JSC DM/ 281 483-2754

REF: Item T43E Section FLT 2750 DBR 198887

SUPPLIER: ER AGENCY: 1 ROPS/DOU (45TH SPACE WING)

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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SECTION 2100 - METRIC DATA

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 579637
ITEM NUMBER: T10E

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 01/19/05

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2200 - TELEMETRY DATA

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD:      533542      REQUIREMENT STATUS: APPROVED
DOCUMENT ID:                ISS VOL-I    APPROVAL DATE:      02/11/05
                                     INITIAL DATE:      08/23/96
ITEM NUMBER:                T1G         DATE LAST CHANGED:  04/08/05
SECTION:                    2200        TIME LAST CHANGED:  09:39:38

REQUESTER:                  JSC
TEST CODE:                  CORE
TRACKING NO.                S01-05-5    S05-02-4    S609-1    S905-1    S910-1
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1. DESCRIPTION: WSC RECORDING INTERVAL

The S-Band and Ku-Band (to a maximum rate of 50Mbps) return links shall be recorded at the White Sands Complex (WSC) for all ISS elements and held for a period of 50 hours or longer if specifically requested. Playback shall be required in the event of communications or facility failures. Playback of Ku-Band data will utilize the same communications link as the real-time data, but real-time and playback will not be transmitted simultaneously. Playback of S-Band data shall occur simultaneously (on a separate channel) with real-time support. Playback of ACS, ATV, and HTV S-Band data shall utilize one common, shared playback channel.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/06/05

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[PRD] DATABASE RECORD:      533544      REQUIREMENT STATUS: APPROVED
DOCUMENT ID:                ISS VOL-I    APPROVAL DATE:      02/11/05
                                     INITIAL DATE:      08/23/96
ITEM NUMBER:                T2G         DATE LAST CHANGED:  04/08/05
SECTION:                    2200        TIME LAST CHANGED:  09:40:02

REQUESTER:                  JSC
TEST CODE:                  CORE
TRACKING NO.                S008-1    S01-05-5    S02-02-1    S05-02-4    S609-1
                             S610-1    S804-1    S910-1
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1. DESCRIPTION: ASSEMBLY CONTINGENCY SUBSYSTEM (ACS) S-BAND
RETURN SERVICE FROM WSC TO SSCC

The ACS SSAR link data rate operates at 192Kbps (High Data Rate mode), 12Kbps (Low Data Rate mode). The ISS ACS System can be operated coherently or non-coherently, but generally in the non-coherent mode.

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INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2200 - TELEMETRY DATA

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 533544
ITEM NUMBER: T2G

The requirements for the ACS S-Band return data to the SSCC are as follows:

- a. A 192 / 12 kbps, synchronous, serial bitstream data and clock service shall be provided for the transfer of S-Band downlink telemetry.
- b. A 192 / 12 kbps, synchronous, serial bitstream data and clock service shall be provided for the transfer of recorded S-Band downlink telemetry. The recorded ACS S-Band service recorded HTV S-Band service, and recorded ATV S-Band service shall share a single ISS recorded S-band service configurable to 192/64/12/8/2/1 Kbps data rate.
- c. A 72/6Kbps, synchronous, serial bitstream and clock service shall be provided for the transfer of S-Band ISS command echo.
- d. A NISN Real-time Critical Service is required.
- e. SSCC Mission Critical Systems/MSN security level interface is required.
- f. The data transport delay shall not exceed 600 ms from WSC to SSCC. The delay shall not vary.
- g. The maximum bit error rate shall be 10E-6.
- h. The communications service shall be transparent to the SSCC. (i.e., the data shall be presented by the communications equipment to the SSCC in the same format as that presented by the WSC to the communications equipment. Any overhead added by the communications service shall be removed from the data prior to delivery to the SSCC and shall require no additional processing or data handling capabilities on the part of the SSCC. The data provided by the WSC shall not be altered by the communications service.)
- i. The communications service shall be capable of handling rate changes between 192 kbps and 12 kbps.
- j. Refer to JSC/GSFC Operational Communications ICD for MCC Systems (JSC 11534, Vol. I, latest revision) for detailed interface requirements.

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2200 - TELEMETRY DATA

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 533544
ITEM NUMBER: T2G

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/06/05

[PRD] DATABASE RECORD: 533546 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/11/05
INITIAL DATE: 08/23/96
ITEM NUMBER: T4G DATE LAST CHANGED: 04/08/05
SECTION: 2200 TIME LAST CHANGED: 09:40:29

REQUESTER: JSC
TEST CODE: CORE
TRACKING NO. S008-1 S05-02-4 S609-1 S804-1 S905-1
S910-1

1. DESCRIPTION: Ku-BAND RETURN DATA FROM WSC TO THE SSCC

NISN shall provide a fiber terrestrial communications network for the distribution of ISS KU-Band downlink data. This network shall support data rates from 25Mbps to 150Mbps.

The requirements for Ku-Band return data to the SSCC are as follows:

- a. The input to the network shall be IP packets, and the output to the SSCC is required to be in the same format as that provided to the network.
- b. NISN shall provide a 56Kbps out-of-band frame relay cloud for network management and status reporting.
- c. The total service availability of the network shall not be less than 0.9995 percent.
- d. The maximum downtime shall not exceed 2 hours for any single outage.
- e. A NISN Mission Critical Service is required.
- f. A Mission Critical Systems/SER security level or higher interface is required.
- g. The maximum acceptable packet loss is .001 percent.
- h. The one-way data transport delay shall not exceed 100ms.
- i. The communications service shall be transparent to the SSCC

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SECTION 2200 - TELEMETRY DATA

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 533546
ITEM NUMBER: T4G

(i.e., the data shall be presented by the communications service shall be removed from the data prior to delivery to the SSCC and shall require no additional processing or data handling capabilities on the part of the SSCC. The data provided by the WSC shall not be altered by the communications service).

- j. Reference MSFC-PLAN-3340, IDEA Development Plan for more detailed requirements.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/06/05
RESPONSE:

[PRD] DATABASE RECORD: 553526 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/11/05
INITIAL DATE: 11/04/99
ITEM NUMBER: T14G DATE LAST CHANGED: 07/12/05
SECTION: 2200 TIME LAST CHANGED: 15:52:09

REQUESTER: JSC
TEST CODE: CORE
TRACKING NO. S008-1 S02-02-1 S05-02-4 S911-1 S912-1

1. DESCRIPTION: ATV S-BAND RETURN FROM WSC TO SSCC

The ATV SSAR link data rate operates at 64 or 8 Kbps. The ATV S-band MA Return link data rate operates at 8 Kbps. The ATV S-band system can be operated coherently or non-coherently. ATV requirement for TDRSS coherent mode operation is the ATV tracking purposes only.

- a. A 8/64 kbps, synchronous, serial bit-stream data and clock service shall be provided for the transfer of S-Band downlink telemetry.
b. A 8/64 kbps, synchronous, serial bit-stream data and clock service shall be provided for the transfer of recorded S-band downlink telemetry. The recorded ACS S-band service, recorded HTV S-band service, and recorded ATV S-band service shall share a single ISS

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PROGRAM NUMBER: 30000

SECTION 2200 - TELEMETRY DATA

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 553526
ITEM NUMBER: T14G

- recorded S-band service configurable to 192/64/12/8/2/1 kbps data rates.
- c. A 1Kbps, synchronous, serial bit-stream data and clock service shall be provided for the transfer of ATV command echo.
 - d. A NISN Mission Critical Service is required.
 - e. SSCC Mission Critical Systems/MSN security level interface is required.
 - f. The data transport delay shall not exceed 600 ms from WSC to SSCC. The delay shall not vary.
 - g. The maximum bit error rate shall be 10E-6.
 - h. The communications service shall be transparent to the ESA Gateway. (i.e., the data shall be presented by the communications equipment to the ESA Gateway in the same format as that presented by the WSC to the communications equipment. Any overhead added by the communications service shall be removed from the data prior to delivery to the ESA Gateway and shall require no additional processing or handling capabilities on the part of the ESA Gateway. The data provided by the WSC shall not be altered by the communications service).
 - i. The communications service shall be capable of handling rate changes between 8 and 64 kbps.
 - j. Refer to JSC/GSFC Operational Communications ICD for MCC Systems (JSC 11534, Vol. I, latest revision.) for detailed interface requirements.

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS 301 805-3459

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/12/05
RESPONSE TRACKING: ZGRAM0047

[PRD] DATABASE RECORD: 553529 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/11/05
INITIAL DATE: 11/05/99
ITEM NUMBER: T15G DATE LAST CHANGED: 04/06/05
SECTION: 2200 TIME LAST CHANGED: 13:52:48

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2200 - TELEMETRY DATA

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 553529
ITEM NUMBER: T15G

REQUESTER: JSC
SUBREQUESTER: HTV
TEST CODE: CORE
TRACKING NO. S008-1 S01-05-5 S02-02-1 S05-02-4 S911-1
S912-1

1. DESCRIPTION: HTV S-BAND RETURN FROM WSC TO SSCC

The HTV SSAR link data rate operates at 8 and 2 Kbps. The HTV S-band MA Return link data rate operates at 2 Kbps. The HTV S-band system can be operated coherently or non-coherently. HTV requirement for TDRSS coherent mode operation is for HTV tracking purposes only.

- a. A 8 and 2 Kbps, synchronous, serial bit-stream data and clock service shall be provided for the transfer of S-band downlink telemetry.
- b. A 8 and 2 Kbps, synchronous, serial bit-stream data and clock service shall be provided for the transfer of recorded S-band downlink telemetry. The recorded ACS S-Band service, recorded HTV S-band service, and recorded ATV S-Band service shall share a single ISS recorded S-band service configured to 192/64/12/8/2/1 kbps data rates.
- c. A 250 bps, synchronous, serial bit-stream data and clock service shall be provided for the transfer of HTV command echo.
- d. A NISN Real-time Critical Service is required.
- e. SSCC Mission Critical Systems/MSN security level interface is required.
- f. The data transport delay shall not exceed 600 ms from WSC to SSCC. The delay shall not vary.
- g. The maximum bit error rate shall be 10E-6.
- h. The communications service shall be transparent to the NASDA Gateway. (i.e., the data shall be presented by the communications equipment to the NASDA Gateway in the same format as that presented by the WSC to the communications equipment. Any overhead added by the communications service shall be removed from the data prior to delivery to the NASDA Gateway and shall

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SECTION 2200 - TELEMETRY DATA

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 553529
ITEM NUMBER: T15G

require no additional processing or data handling capabilities on the part of the NASDA Gateway. The data provided by the WSC shall not be altered by the communications service).

- i. The communications service shall be capable of handling rate changes between 8 and 2 Kbps.
- j. Refer to JSC/GSFC Operational Communications ICD for MCC Systems (JSC 11534, Vol. I, latest revision) for detailed interface requirements.

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/06/05
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INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2300 - COMMAND SYSTEMS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD:	544838	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	02/11/05
		INITIAL DATE:	04/30/98
ITEM NUMBER:	HT3G	DATE LAST CHANGED:	07/12/05
SECTION:	2300	TIME LAST CHANGED:	15:40:21

REQUESTER:	MSFC	JSC			
TEST CODE:	CORE	FLT 4A			
TRACKING NO.	S008-1	S05-02-4	S804-1	S910-1	S912-1

1. DESCRIPTION: ASSEMBLY CONTINGENCY SUBSYSTEM (ACS) S-BAND
 FORWARD SUPPORT FROM SSCC TO WSC

The ISS ACS SSAF link data rate operates at 72 kbps (High Data Rate mode) or 6 kbps (Low Data Rate mode). ACS SSAR link rate operates at 192Kbpe (High Data Rate mode) and 12Kbps (Low Data Rate mode).

- a. A 72 / 6 kbps, synchronous, serial bit-stream data and clock service shall be provided for the transfer of spacecraft uplink data.
- b. A NISN Real-time Critical Service is required.
- c. SSCC Mission Critical Systems/MSN security level interface is required.
- d. The data transport delay shall not exceed 400 ms from SSCC to WSC. The delay shall not vary.
- e. The maximum bit error rate shall be 10E-6.
- f. The communications service shall be transparent to the WSC. (i.e., the data shall be presented by the communications equipment to the WSC in the same format as that presented by the SSCC to the communications equipment. Any overhead added by the communications service shall be removed from the data prior to delivery to the WSC and shall require no additional processing or data handling capabilities on the part of the WSC. The data provided by the SSCC shall not altered by the communications service.)
- g. Refer to JSC/GSFC Operational Communications ICD for MCC Systems (JSC 11534, Vol. I, latest revision) for detailed interface.
- h. The communications service shall be capable of supporting rate changes between 72 kbps and 6 kbps.
- i. The WSC shall remove the modulation from the TRDSS forward link to the ISS when signals are removed at the SSCC output.

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INTERNATIONAL SPACE STATION ORBITAL VOL-I
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SECTION 2300 - COMMAND SYSTEMS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 544838
ITEM NUMBER: HT3G

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS 301 805-3459

SUPPLIER COMMITMENT: INWORK SEE RESPONSE RESPONSE DATE: 07/12/05
RESPONSE: Requirement is in process of being reviewing by
NISN UNITEs.

RESPONSE TRACKING: ZGRAM0047

[PRD] DATABASE RECORD: 553539 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/11/05
INITIAL DATE: 11/05/99
ITEM NUMBER: T5GT DATE LAST CHANGED: 04/08/05
SECTION: 2300 TIME LAST CHANGED: 09:41:28
REQUESTER: JSC
SUBREQUESTER: HTV
TEST CODE: CORE
TRACKING NO. S008-1 S05-02-4 S911-1

1. DESCRIPTION: HTV S-BAND FORWARD SUPPORT FROM SSCC TO WSC

The HTV S-Band forward link system operates at 250 bps SSA only. No MA forward link is required. The HTV S-Band return link system operates in SSA at 8Kbps normal, or 2.0Kbps contingency. The HTV MA return link operates at 2.0Kbps normal. The HTV shall require continuous TDRSS forward and return link, including the Zone of Exclusion (ZOE), during critical phases of flight.

- a. A 250 bps, synchronous, serial bit-stream data and clock service shall be provided for the transfer of spacecraft uplink data.
- b. A NISN Real-time Critical Service is required.
- c. SSCC Mission Critical Systems/MSN security level interface is required.
- d. The data transport delay shall not exceed 400ms from SSCC to WSC. The delay shall not vary.

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INTERNATIONAL SPACE STATION ORBITAL VOL-I
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[PRD] DATABASE RECORD: 553539
ITEM NUMBER: T5GT

- e. The maximum bit error rate shall be 10E-6.
- f. The communications service shall be transparent to the WSC. (i.e., the data shall be presented by the communications equipment to the WSC in the same format as that presented by the SSCC to the communications equipment. Any overhead added by the communications service shall be removed from the data prior to delivery to the WSC and shall require no additional processing or data handling capabilities on the part of the WSC. The data provided by the SSCC shall not be altered by the communications service).
- g. Refer to JSC/GSFC Operational Communications ICD for MCC Systems (JSC 11534, Vol. I, latest revision) for detailed interface requirements.
- h. The WSC shall remove the modulation from the TRDSS forward link to the ISS when signals are removed at the SSCC output.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/06/05

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/11/05

[PRD] DATABASE RECORD: 553540 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/06/02
INITIAL DATE: 11/05/99
ITEM NUMBER: T6GT DATE LAST CHANGED: 02/11/05
SECTION: 2300 TIME LAST CHANGED: 13:23:36

REQUESTER: JSC
SUBREQUESTER: ATV
TEST CODE: CORE
TRACKING NO. S008-1 S01-02-2 S02-02-1 S911-1 S912-1

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INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2300 - COMMAND SYSTEMS

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[PRD] DATABASE RECORD: 553540
ITEM NUMBER: T6GT

1. DESCRIPTION: ATV S-BAND FORWARD SUPPORT FROM SSCC TO WSC

The ISS S-band Single Access Forward (SSAF) link and/or S-band MA forward links originate at the SSCC and shall be transported to the WSC. The ATV SSAF link operates at 1Kbps. The ATV S-band forward link data rate operates at 1 Kbps in MA.

- a. A 1 kbps, synchronous, serial bit-stream data and clock service shall be provided for the transfer of spacecraft uplink data.
- b. A NISN Real-time Critical Service is required.
- c. SSCC Mission Critical Systems/MSN security level interface is required.
- d. The data transport delay shall not exceed 400 ms from SSCC to WSC. The delay shall not vary.
- e. The maximum bit error rate shall be 10E-6.
- f. The communications service shall be transparent to the WSC. (i.e., the data shall be presented by the communications equipment to the WSC in the same format as that presented by the SSCC to the communications equipment. Any overhead added by the communications service shall be removed from the data prior to delivery to the WSC and shall require no additional processing or data handling capabilities on the part of the WSC. The data provided by the SSCC shall not be altered by the communications service).
- g. Refer to JSC/GSFC Operational Communications ICD for MCC Systems (JSC 11534, Vol. I, latest revision) for detailed interface requirements.
- h. The WSC shall remove the modulation from the TRDSS forward link to the ISS when signals are removed at the SSCC output.

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 03/14/02

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[PRD] DATABASE RECORD: 553540
ITEM NUMBER: T6GT

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/06/02

[PRD] DATABASE RECORD: 553541 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 08/15/00
INITIAL DATE: 11/05/99
ITEM NUMBER: T7GT DATE LAST CHANGED: 02/11/05
SECTION: 2300 TIME LAST CHANGED: 13:24:13

REQUESTER: JSC
TEST CODE: CORE
TRACKING NO. S008-1 S911-1 S912-1

1. DESCRIPTION: KU-BAND FORWARD SUPPORT FROM SSCC TO WSC

The ISS requires either a pseudo-random (PN) spread or data modulated Ku-band Single Access Forward (KSAF) link. A given TDRSS support event may contain both modulation or PN spreading, but not at the same time. The service will be configured by Ground Control Message Requests (GCMR) during the event to switch between data modulated or PN spread.

Data will originate at the SSCC and be transported to WSC at 3 Mbps. In the future, an ISS upgrade to accommodate a data rate of approximately 12 Mbps, and the 25 Mbps, may occur.

The PN spreading is used by the ISS for autotrack operations only and can be any PN code.

- a. A 3 Mbps, synchronous, serial bit-stream data and clock service shall be provided for the transfer of spacecraft uplink data.
- b. A NISN Real-time Critical Service is required.
- c. SSCC Mission Critical Systems/MSN security level interface is required.
- d. The data transport delay shall not exceed 400 ms from SSCC to WSC.
- e. The maximum bit error rate shall be 10E-6.

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2300 - COMMAND SYSTEMS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 553541
ITEM NUMBER: T7GT

- f. The communications service shall be transparent to the WSC. (i.e., the data shall be presented by the communications equipment to the WSC in the same format as that presented by the SSCC to the communications equipment. Any overhead added by the communications service shall be removed from the data prior to delivery to the WSC and shall require no additional processing or data handling capabilities on the part of the WSC. The data provided by the SSCC shall not be altered by the communications service).
- g. Refer to JSC/GSFC Operational Communications ICD for MCC Systems (JSC 11534, Vol. I, latest revision) for detailed interface requirements.

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 01/26/01

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 08/15/00

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2700 - COMMUNICATION

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD:      544849      REQUIREMENT STATUS: APPROVED
DOCUMENT ID:                ISS VOL-I    APPROVAL DATE:      02/06/02
                                           INITIAL DATE:      04/30/98
ITEM NUMBER:                HT4GK        DATE LAST CHANGED:  02/17/05
SECTION:                    2700         TIME LAST CHANGED:  09:45:24

REQUESTER:                  MSFC          JSC
TEST CODE:                  CORE
TRACKING NO.                S008-1        S01-02-2    S02-02-1    S804-1    S905-1
                             S910-1        S912-1
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1. DESCRIPTION: MULTI-ELEMENT INTEGRATION TEST (MEIT) AT KSC-SSPF

- a. A 192 / 12 kbps, synchronous, serial bit-stream data and clock service from KSC-SSPF to JSC-SSCC shall be provided for the transfer of test S-band return data. The high and low data rates will not be required simultaneously.
- b. A 72 / 6 kbps, synchronous, serial bit-stream data and clock service from JSC - SSCC to KSC - SSPF shall be provided for the transfer of test S-Band forward link data. The high and low data rates will not be required simultaneously.
- c. A 192 / 12 kbps, synchronous, serial bit-stream data and clock service from WSC to SSCC shall be provided for the transfer of test S-Band downlink telemetry. The high and low data rates will not be required simultaneously.
- d. A 72 / 6 kbps, synchronous, serial bit-stream data and clock service from SSCC to WSC shall be provided for the transfer of test S-Band uplink data. The high and low data rates will not be required simultaneously.
- e. A 192 / 12 kbps, synchronous, serial bit-stream data and clock service from WSC to HOSC shall be provided for the transfer of test S-Band downlink telemetry. The high and low data rates will not be required simultaneously.
- f. A NISN Mission Critical Service is required.
- g. SSCC and HOSC Mission Critical Systems/SER level interface is required.
- h. The maximum bit error rate shall be 10E-6.
- i. The data transport delay shall not exceed 600ms.
- j. In support of MEIT testing, a relay from KSC to TDRS maybe required.
- k. The following voice services shall be provided for support of MEIT testing.

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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[PRD] DATABASE RECORD: 544849
ITEM NUMBER: HT4GK

GSFC to KSC Test Coordination	1 circuit	routine
GSFC to WSC Test Coordination	1 circuit	routine
GSFC to JSC Test Coordination	2 circuits	routine
GSFC to MSFC Test Coordination	1 circuit	routine

OND: FLIGHT 3A -6 MONTHS

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: NOCMT SEE RESPONSE RESPONSE DATE: 03/14/02
RESPONSE: Future MEIT testing requirements are still being defined as
indicated in NPRD Rev.H

SUPPLIER: KSC AGENCY: KSC/PH-B (KENNEDY SPACE CENTER)

SUPPLIER COMMITMENT: WILCO SEE RESPONSE RESPONSE DATE: 04/30/01
RESPONSE: REF: a: Data circuit will be provided using NISN circuit
established to support ISS requirements from JSC.
REF: b. Data circuit will be provided using NISN circuit
established to support ISS requirement JSC.
REF: j. This test coord will be assigned by GSFC COMM
Manager when needed.
REF: Items c,d,e,f,g,h,i, and k are not KSC responsibility.

[PRD] DATABASE RECORD: 556452 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 08/14/00
INITIAL DATE: 08/14/00
ITEM NUMBER: T7 DATE LAST CHANGED: 02/11/05
SECTION: 2700 TIME LAST CHANGED: 13:28:02

REQUESTER: JSC
TEST CODE: CORE INFO
TRACKING NO. S008-1

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2700 - COMMUNICATION

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 556452
ITEM NUMBER: T7

1. DESCRIPTION: SSCC AND JAXA INTERFACE

The SSCC to/from JAXA data transfer interface will be located at the NASDA gateway at the SSCC. Exact details of the data/voice/video requirements of the interface are documented in the SSCC to JAXA Ground Segment ICD (SSP 45012). JAXA will provide the communications services from the SSCC gateway to JAXA facilities.

REF: T37GT Section 2734 DBR 551503

[PRD] DATABASE RECORD: 556505 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 08/15/00
INITIAL DATE: 08/15/00
ITEM NUMBER: T9 DATE LAST CHANGED: 08/02/02
SECTION: 2700 TIME LAST CHANGED: 14:42:13

REQUESTER: JSC
TEST CODE: CORE INFO
TRACKING NO. S008-1

1. DESCRIPTION: SSCC AND ESA INTERFACE

The SSCC to /from ESA data transfer will be located at the ESA gateway at the SSCC. Exact details of the data/voice/video requirements of the interface are documented in the SSCC to ESA Ground Segment ICD (SSP 45011). ESA will provide the communications services from the SSCC gateway to ESA facilities.

REF: ITEM T37GT ISO2734 DBR 551503

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2710 - AIR/GROUND VOICE COMMUNICATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD:      533551      REQUIREMENT STATUS: APPROVED
DOCUMENT ID:                ISS VOL-I    APPROVAL DATE:      02/11/05
                                     INITIAL DATE:      08/23/96
ITEM NUMBER:                T1GX        DATE LAST CHANGED:  04/08/05
SECTION:                    2710        TIME LAST CHANGED:  09:42:02

REQUESTER:                  JSC
TEST CODE:                  CORE
TRACKING NO.                S002-2      S01-02-2      S01-06-1      S02-02-1      S05-02-4
                             S609-1      S804-1      S808-1      S905-1
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1. DESCRIPTION: VHF VOICE

Communications services shall be provided between SSCC and and the VHF ground stations located at Dryden Flight Research Center, White Sand Complex, and Wallops Flight Facility/Tracking Station for the bi-directional transmission of mission critical data packets or voice. Additionally, a VHF site voice coordination loop interconnecting the control centers, communications facilities, and the VHF ground station is required.

The capability is required to uplink and downlink Space-to-Ground VHF voice communications between the MCC-H, MCC-M, ISS via Dryden Flight Research Center (DFRC), Wallops Flight Facility (WFF), and the White Sands Complex (WSC) ground stations as scheduled.

The Service Module (SM) VHF-1 voice/packet data downlink frequency is 143.625Mhz and the uplink frequency is 139.208Mhz. The modulation is FM with a deviation of plus or minus 10 kHz. Support passes will be scheduled on request.

In addition to normal uplink/downlink support of (SM) VHF-1, the sites are required to provide downlink receive capability on Soyuz-TM VHF-2 at a frequency of 121.750 MHz. Uplink capability on VHF-2 at a frequency of 130.167 MHz is for emergency use only.

VHF 1 and VHF 2 support at DFRC, WFF, and WSC will be on a 4 hour call up and scheduled in case of Soyuz or ISS spacecraft emergency. Operator proficiency passes will be scheduled as needed(approximately 6 passes per year per site). VHF 2 support will be scheduled after each Soyuz launch, two Soyuz launches are projected per year. Approximately 6 passes per launch will be scheduled as follows: 3 at WLPS, 2 at WSC, and 1 at DFRC.

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SECTION 2710 - AIR/GROUND VOICE COMMUNICATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 533551
ITEM NUMBER: T1GX

All view period support from Wallops, White Sands and Dryden on ISS
VHF 1 and Soyuz VHF 2 is required during any Soyuz or ISS spacecraft
emergency for the duration of ISS operations.

REF: ITEM T9GT SECTION ISO2750 DBR 558566

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS

SUPPLIER COMMITMENT: WILCO SEE RESPONSE RESPONSE DATE: 04/06/05
RESPONSE: WFF and WSC requires 24 notification. Less than
24 hours will be scheduled through the WFF shift
supervisor at (804 824-2375) and WSC at (505 527-7157)
on a best effort basis.

SUPPLIER: DFRC AGENCY: DFRC/XOS (X - DRYDEN FLIGHT RESEARCH CENTER)
SUBSUPPLIER: FD

SUPPLIER COMMITMENT: WILCO SEE RESPONSE RESPONSE DATE: 03/08/05
RESPONSE: Dryden will provide VHF voice 5 days a week,
8 hours a day. Hours of operation will be normal duty
hours from 0730-1600 PST. Emergency/contingency support
outside these hours will provide on an 3 hours best
effort basis.

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INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2730 - VOICE NETWORK TRANSMISSION

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD:      533567      REQUIREMENT STATUS: APPROVED
DOCUMENT ID:                ISS VOL-I    APPROVAL DATE:      02/11/05
                                     INITIAL DATE:      08/23/96
ITEM NUMBER:                T1GHT       DATE LAST CHANGED:  04/08/05
SECTION:                    2730        TIME LAST CHANGED:  09:42:34

REQUESTER:                  JSC
SUBREQUESTER:               ZTM
TEST CODE:                  CORE
TRACKING NO.                S008-1      S01-02-2      S01-05-3      S02-02-1      S03-01-1
                             S05-02-4      S609-1       S804-1       S905-1       S910-1
                             S912-1
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1. DESCRIPTION: VOICE CIRCUITS REQUIREMENT

NISN shall provide voice communications services for voice communications between the SSCC, HOSC, NASA Centers, and the Houston Support Room (HSR MCC-M) for the following locations.

CIRCUITS	DESTINATION
140 CKTS	SSCC to HOSC (Mission, Sim Supt) (NCHD)
5 CKTS	SSCC to HOSC (PAO support) (NCHD)
7 CKTS	SSCC to GSFC (Miss, Sim Supt) (NCHD)
31 CKTS	SSCC to CSA (Miss, Sim Supt) (NCHD)
14 CKTS	SSCC to MCC-M (Miss, Sim Supt) (Critical)
34 CKTS	SSCC to MCC-M (Miss, Sim Supt) (NCHD)

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/06/05

SUPPLIER: MSFC AGENCY: MSFC/EO60 (MARSHALL SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/22/05

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/11/05

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INTERNATIONAL SPACE STATION ORBITAL VOL-I
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SECTION 2730 - VOICE NETWORK TRANSMISSION

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD:	579598	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	01/18/05
		INITIAL DATE:	
ITEM NUMBER:	T5EG	DATE LAST CHANGED:	06/28/05
SECTION:	2730	TIME LAST CHANGED:	12:57:08
REQUESTER:	JSC		
TEST CODE:	CORE	ISS	JSC/DM
TRACKING NO.	S05-01-1	S05-02-1	

1. DESCRIPTION: ALTERNATE SPACE CONTROL VOICE CIRCUIT

NISN is to provide one (1) full duplex, 4 wire voice circuit with
Type one (1) E&M signaling between the JSC MCC and the Cheyenne
Mountain Alternate Space Control Center in Dahlgren, Va.

REF: Item T32G Section FLT 2730 DBR 544753

SUPPLIER: ER AGENCY: 1 ROPS/DOU (45TH SPACE WING)
RESPONDER: DAVID P. BURCH

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 06/27/05

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/19/05

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INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2734 - VIDEO/DATA NETWORK TRANSMISSION

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD:      533557      REQUIREMENT STATUS: APPROVED
DOCUMENT ID:                ISS VOL-I    APPROVAL DATE:      02/11/05
                                     INITIAL DATE:      08/23/96
ITEM NUMBER:                T1GT        DATE LAST CHANGED:  04/06/05
SECTION:                    2734        TIME LAST CHANGED:  15:19:34

REQUESTER:                  JSC
TEST CODE:                  CORE
TRACKING NO.                S008-1      S01-02-2      S03-01-1      S05-02-4      S609-1
                             S804-1      S905-1      S910-1
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1. DESCRIPTION: DATA TRANSFER INTERFACE FOR SSCC TO CSA

The SSCC to/from CSA data transfer interface will be located at the CSA gateway at the SSCC. Exact details of the data/voice/video requirements of the interface are documented in the SSCC to CSA Ground Segment ICD (SSP 45004). CSA will provide the communications service for communications between the SSCC and CSA Facilities in St. Hubert. This WAN communications service, utilizing TCP/IP protocol suite, will transport the following data types: Robotice Planning Software (RPS) workstation video and NASA Administrative services.

Requirements for SSCC to CSA data transfer interface are as follows:

- a. A CIR of 384Kbps shall be provided for transfer of Remote Multi-Purpose Support Room (RMPSR) RPS workstation video.
- b. A NISN PIP service is required.
- c. Refer to the SSCC to CSA Fround Segment ICD (SSP 45004) for detailed interface requirements.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/06/05
RESPONSE:

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/11/05

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2734 - VIDEO/DATA NETWORK TRANSMISSION

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD:      533558      REQUIREMENT STATUS: APPROVED
DOCUMENT ID:                ISS VOL-I    APPROVAL DATE:      02/11/05
                                     INITIAL DATE:      08/23/96
ITEM NUMBER:                T2T          DATE LAST CHANGED:  02/23/05
SECTION:                    2734        TIME LAST CHANGED:  10:55:37

REQUESTER:                  JSC
TEST CODE:                  CORE
TRACKING NO.                S008-1      S01-02-2    S03-01-1    S05-02-4    S609-1
                             S804-1      S905-1     S910-1
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1. DESCRIPTION: DATA TRANSFER INTERFACE FOR CSA TO SSCC

The CSA to/from SSCC data transfer interface will be located at the CSA gateway at the SSCC. Exact details of the data/voice/video requirements of the interface are documented in the SSCC to CSA Ground Segment ICD (SSP 45004). CSA will provide the communications services from CSA gateway at SSCC to CSA Facilities in St-Hubert. This WAN service, utilizing TCP/IP protocol suite, will transport the following data types: Robotics Planning Software (RPS) workstation video and NASA Administrative services.

Requirements for CSA to SSCC data transfer interface are as follows:

- a. A CIR of 384Kbps shall be provided for transfer of Remote Multi-Purpose Support Room (RMPSR) RPS workstation video.
- b. A NISN PIP service is required.
- c. Refer to the SSCC to CSA Ground Segment ICD (SSP 45004) for interface requirements.

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/11/05

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[PRD] DATABASE RECORD:      533560      REQUIREMENT STATUS: APPROVED
DOCUMENT ID:                ISS VOL-I    APPROVAL DATE:      02/06/02
                                     INITIAL DATE:      08/23/96
ITEM NUMBER:                T3GT          DATE LAST CHANGED:  02/11/05
SECTION:                    2734        TIME LAST CHANGED:  15:17:07

REQUESTER:                  JSC
TEST CODE:                  CORE
TRACKING NO.                S008-1      S01-02-2    S02-02-1    S05-02-4    S609-1
                             S610-1      S804-1     S905-1
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INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2734 - VIDEO/DATA NETWORK TRANSMISSION

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 533560
ITEM NUMBER: T3GT

1. DESCRIPTION: DATA TRANSFER INTERFACE FOR SSCC TO MCC-M

NISN shall provide a NASA Operational WAN communications service for communications between the SSCC and the MCC-M gateway. This WAN service, utilizing TCP/IP protocol suite, will transport the following data types for both real-time and simulations: Shuttle data, ECS command and telemetry, SM health and status, trajectory data, ISS commands (payload and core), ISS command responses, command history data files, real-time and recorded telemetry, planning data files, file transfers (uplink and downlink), and archived ISS Systems data. Mission data flowing between the MCC-H and MCC-M has been categorized by mission criticality as being either Mission Critical or Mission non-critical. Negotiated agreement with NISN to modify bandwidth and availability requirements for each category is defined below; however reliability and packet loss remain as documented in Appendix A for Mission Critical Services.

Requirements for SSCC to MCC-M data transfer interface are as follows:

- 1.a. A Real-time Mission Critical 640 kbps data interface shall be provided to transport the following data services with a maximum restoral time of less than 15 minutes.
 - Preplanned FGB and SM commands, command responses, spacecraft, downlink, command history, and planning.
 - 1. Data, uplink, archive and ground-to-ground files.
 - 2. EIS Realtime commands.
 - 3. Russian Orbiting Segment (ROS)CCSDS packet telemetry.
 - 4. Processed Shuttle telemetry.
 - 5. ISS Systems telemetry.
 - 6. PPCP and transport messages.
 - b. A NISN Real-time Critical Service is required.
 - c. A SSCC and MCC-M Mission Critical Systems/MSN security level interface is required.
 - d. The one way data transport delay shall not exceed 700 ms.
 - e. The maximum acceptable packet loss is .001 percent.
- 2.a. A Mission Non-Critical 640 kbps data interface shall be provided to transport the following data files with a maximum

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SECTION 2734 - VIDEO/DATA NETWORK TRANSMISSION

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[PRD] DATABASE RECORD: 533560
ITEM NUMBER: T3GT

restoral time of less than 3 hours.

1. General File Transfer (planning, trajectory, flight control, security).
2. Houston Support Room (HSR) telemetry.
3. HSR general file exchange.
4. HSR remote administration.
5. HSR remote baseline update.
- b. A NISN Mission Critical Service is required.
- c. A SSCC and MCC-M Mission Critical Systems/MSN security level interface is required.

3. Ref to the SSCC to RSA Ground Segment ICD (SSP 50057) for detailed interface requirements.

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 10/03/02

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/06/02

[PRD] DATABASE RECORD: 533561 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 05/21/01
INITIAL DATE: 08/23/96
ITEM NUMBER: T4G DATE LAST CHANGED: 02/11/05
SECTION: 2734 TIME LAST CHANGED: 15:22:17

REQUESTER: JSC
TEST CODE: CORE
TRACKING NO. S008-1 S01-02-2 S01-05-5 S05-02-4 S609-1
S610-1 S804-1 S905-1 S910-1 S912-1

1. DESCRIPTION: DATA TRANSFER INTERFACE FOR MCC-M TO SSCC

NISN shall provide a NASA Operational WAN communications service for

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2734 - VIDEO/DATA NETWORK TRANSMISSION

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

CONTINUED

[PRD] DATABASE RECORD: 533561
ITEM NUMBER: T4G

communications between the MCC-M and the SSCC gateway. This WAN service, utilizing TCP/IP protocol suite, will transport the following data types for both realtime and simulations: Shuttle data, ECS command and telemetry, SM health and status, trajectory data, ISS commands (payload and core), ISS command responses, command history data files, realtime and recorded telemetry, planning data files, file transfer (uplink and downlink), and archived ISS Systems data. Mission data flowing between the MCC-M and MCC-H has been categorized by mission criticality as being either Mission Critical or Mission Non-Critical. Negotiated agreement with NISN to modify bandwidth and availability requirements for each category is defined below; however, reliability and packet loss remain as documented in Appendix A for Mission Critical Services.

Requirements for MCC-M to SSCC data transfer interface are as follows:

- 1.a. Real-time Mission Critical 640 kbps data interface shall be provided to transport the following data services with a maximum restoral time of less than 15 minutes:
 1. Shared multi-segment command data.
 2. Command Express reports.
 3. Russian Segment (RS) commands.
 4. Real-time United States On-Orbit Segment (USOS) telemetry.
 5. Transfer of recorded USOS data.
 6. Transfer of uplink, downlink, planning, and ground-to-ground data files.
 - b. A NISN Real-time Critical Service is required.
 - c. A SSCC and MCC-M Mission Critical Systems/MSN security level interface is required.
 - d. The one way data transport delay shall not exceed 700 ms.
 - e. The maximum acceptable packet loss is .001 percent.
-
- 2.a. A Mission Non-Critical 640 kbps data interface shall be provided to transport the following dta files with a maximum restoral time of less than 3 hours.
 1. Moscow Support Room (MSR) telemetry.
 2. MSR general file exchange.
 3. MSR remote administration.
 4. MSR remote baseline update.

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2734 - VIDEO/DATA NETWORK TRANSMISSION

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 533561
ITEM NUMBER: T4G

- b. A NISN Mission Critical Service is required.
- c. A MCC-M and SSCC Mission Critical Systems/MSN security level interface is required.

- 3. Refer to the SSCC to RSA Ground Segment ICD (SSP 50057) for detailed interface requirements.

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 06/06/01

[PRD] DATABASE RECORD: 538278 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/08/01
INITIAL DATE: 05/21/97
ITEM NUMBER: KT5GKT DATE LAST CHANGED: 02/17/05
SECTION: 2734 TIME LAST CHANGED: 10:32:19

REQUESTER: KSC JSC
SUBREQUESTER: S01-02-2 S705-1
TEST CODE: CORE

1. DESCRIPTION: JSC-SDIL TO KSC-SSPF/PAD DATA TRANSFER INTERFACE

JSC requires 192 Kbps full duplex circuit between the JSC Software Development Integration Laboratory (SDIL) and the KSC Space Station Processing Facility (SSPF)/PAD for the transfer of flight software loads. AIS sensitivity level 3 interface is required, and a non-critical highly desirable data classification for availability and a maximum bit error rate of 10E-6

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 03/20/01

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2734 - VIDEO/DATA NETWORK TRANSMISSION

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 538278
ITEM NUMBER: KT5GKT

RESPONSE:

SUPPLIER: KSC AGENCY: KSC/PH-B3B (K - KENNEDY SPACE CENTER)
SUBSUPPLIER: USK-102

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/30/01

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/08/01

[PRD] DATABASE RECORD: 544851 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/14/05
INITIAL DATE: 05/01/98
ITEM NUMBER: HT6GT DATE LAST CHANGED: 07/12/05
SECTION: 2734 TIME LAST CHANGED: 15:43:25

REQUESTER: MSFC JSC
TEST CODE: CORE
TRACKING NO. S008-1 S01-02-2 S02-02-1 S05-02-4 S804-1
S905-1 S910-1

1. DESCRIPTION: SSCC TO HOSC DATA TRANSFER INTERFACE

NISN shall provide a NASA Operational WAN communications service for communications between the SSCC and the HOSC. This WAN service, utilizing the Transmission Control Protocol/Internet Protocol (TCP/IP) suite of protocols, will transport the following data types: commands (payload and core), command responses, command history data files, planning data files, uplink file transfers, archived ISS Systems data, and archive requests. NISN shall provide a serial bit-stream service for the transmission of simulated S-Band downlink telemetry. These data types are identified below as either operational or simulation requirements.

- a. CIR of 112 kbps shall be provided for the transfer of operational and simulated command responses via a dedicated point to point circuit or equivalent dedicated private

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[PRD] DATABASE RECORD: 544851
ITEM NUMBER: HT6GT

- network.
- b. CIR of 112 kbps shall be provided for the transfer of operational and simulated command history files.
 - c. CIR of 192 kbps shall be provided for the transfer of planning data files.
 - d. CIR of 150 kbps shall be provided for the transfer of archived ISS Systems data files.
 - e. CIR of 192 kbps, synchronous, serial bit-stream data and clock service shall be provided for the transfer of downlink S-band downlink telemetry.
 - f. A CIR of 4 kbps shall be provided for the transfer of real-time and simulated IAM antenna.
 - g. CIR of 256Kbps PIP services shall be provided for the transfer of Orbiter Communications Adapter (OCA) data.
 - h. A NISN Mission Critical Service (for a through f) is required.
 - i. SSCC and HOSC Mission Critical Systems/MSN security level interface is required.
 - j. The one way data transport delay (for a through f) shall not exceed 100ms.
 - k. The maximum acceptable packet loss (for a through f) is .001 percent.
 - l. Refer to the SSCC to HOSC ICD (SSP 45001) for detailed interface requirements.

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS 301 805-3459

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/12/05
RESPONSE TRACKING: ZGRAM0047

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/14/05

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2734 - VIDEO/DATA NETWORK TRANSMISSION

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD:      544853      REQUIREMENT STATUS: APPROVED
DOCUMENT ID:                ISS VOL-I    APPROVAL DATE:      02/14/05
                                           INITIAL DATE:      05/01/98
ITEM NUMBER:                HT7GH       DATE LAST CHANGED:  05/22/06
SECTION:                    2734        TIME LAST CHANGED:  11:05:09

REQUESTER:                  MSFC                JSC
TEST CODE:                  CORE
TRACKING NO.                S008-1      S01-02-2      S02-02-1      S05-02-4      S804-1
                             S905-1      S910-1
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1. DESCRIPTION: HOSC TO SSCC DATA TRANSFER INTERFACE

NISN shall provide a NASA Operational WAN communications service for communications between the SSCC and the HOSC. This WAN service, utilizing the Transmission Control Protocol/Internet Protocol (TCP/IP) suite of protocols, will transport the following data types: commands (payload and core), command responses, command history data files, planning data files, uplink file transfers, archived ISS Systems data, and archive requests. NISN shall provide a serial bit-stream service for the transmission of simulated S-Band downlink telemetry. These data types are identified below as either operational or simulation requirements.

- a. CIR of 112 kbps shall be provided for the transfer of operational and simulated commands via a dedicated point to point circuit or equivalent dedicated private network.
- b. CIR of 300 kbps shall be provided for the transfer of operational and simulated uplink files.
- c. CIR of 192 kbps shall be provided for the transfer of planning data files.
- d. CIR of 1 kbps shall be provided for the transfer of archive requests.
- e. CIR of 256Kbps PIP service shall be provided for the transfer of Orbiter Communications Adapter (OCA) data.
- f. A NISN Mission Critical Service (for a through d) is required.
- g. A SSCC and HOSC Mission Critical Systems/MSN security level.
- h. The one way data transport delay shall not exceed 100 ms (for a through d).
- i. The maximum acceptable packet loss is .001 percent (for a through d).
- j. Refer to the SSCC to HOSC ICD (SSP 45001) for detailed

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[PRD] DATABASE RECORD: 544853
ITEM NUMBER: HT7GH

interface requirements.

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS 301 805-3459

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/12/05
RESPONSE TRACKING: ZGRAM0047

SUPPLIER: MSFC AGENCY: MSFC/EO60 (MARSHALL SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/25/05

[PRD] DATABASE RECORD: 551501 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/08/02
INITIAL DATE: 05/05/99
ITEM NUMBER: KT35GT DATE LAST CHANGED: 02/14/05
SECTION: 2734 TIME LAST CHANGED: 09:54:58

REQUESTER: KSC JSC
TEST CODE: CORE
TRACKING NO. S008-1 S02-02-1 S05-02-4 S905-1 S910-1

1. DESCRIPTION: JSC TO KSC DATA TRANSFER INTERFACE

NISN shall provide a NASA Operational WAN communications service for communications between the JSC and the KSC. This WAN service, utilizing TCP/IP protocol suite, will transport the following data types: software loads, file transfers.

- a. A CIR of 192 Kbps shall be provided for the transfer of flight software loads from the Software Development Integration Laboratory (SDIL) to the Space Station Processing Facility (SSPF).
- b. A CIR of 224kbps shall be provided for the Test Control and Monitor System (TCMS) from the ASI Gateway at JSC to the SSPF.
- c. A SDIL and SSPF Mission Critical Systems/MSN security

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PROGRAM NUMBER: 30000

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[PRD] DATABASE RECORD: 551501
ITEM NUMBER: KT35GT

- level interface is required.
- d. A JSC and SSPF Mission Critical Systems/SER security level interface is required for (b.).
 - e. A NISN Mission Critical Service is required for (a.).
 - f. A NISN Premium Service is required for (b.).

REF: ITEM TK5GKT ISO 2734 DBR 538278

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 03/14/02
RESPONSE:

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/08/02

[PRD] DATABASE RECORD: 551502 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/08/02
INITIAL DATE: 05/05/99
ITEM NUMBER: T36GK DATE LAST CHANGED: 02/14/05
SECTION: 2734 TIME LAST CHANGED: 09:56:21

REQUESTER: JSC
TEST CODE: CORE
TRACKING NO. S008-1 S02-02-1 S05-02-4 S905-1

1. DESCRIPTION: KSC TO JSC DATA TRANSFER INTERFACE

NISN shall provide a NASA Operational WAN communications service for communications between the KSC and the JSC. This WAN service, utilizing TCP/IP protocol suite, will transport the following data types: software loads, file transfer.

- a. A CIR of 192 Kbps shall be provided for the transfer

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PROGRAM NUMBER: 30000

SECTION 2734 - VIDEO/DATA NETWORK TRANSMISSION

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 551502
ITEM NUMBER: T36GK

- of flight software loads from the SSPF to SDIL.
- b. A CIR of 512kbps shall be provided for the Test Control and Monitor System (TCMS) from the SSPF to the ASI Gateway at JSC.
 - c. A CIR of 384kbps shall be provided for compressed video from the SSPF to the ASI Gateway at JSC.
 - d. A NISN Mission Critical Service is required for (a.).
 - e. A NISN Premium Service is required for (b and c).
 - f. A SSPF and SDIL Mission Critical Systems/MSN security level interface is required for (a.).
 - g. A SSPF and JSC Mission Critical Systems/SER security level interface is required for (b and c).

REF: ITEM TK5GKT ISO2734 DBR 538278

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 03/14/02
RESPONSE:

SUPPLIER: KSC AGENCY: KSC/PZ-H-C (K - KENNEDY SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/30/02

[PRD] DATABASE RECORD: 556504 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/14/05
INITIAL DATE: 08/15/00
ITEM NUMBER: T43GT DATE LAST CHANGED: 07/12/05
SECTION: 2734 TIME LAST CHANGED: 15:46:29

REQUESTER: JSC
TEST CODE: CORE
TRACKING NO. S008-1 S01-02-2 S01-05-5 S03-01-1 S05-02-4

CLASSIFICATION UNCLASSIFIED

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PROGRAM NUMBER: 30000

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PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 556504
ITEM NUMBER: T43GT

1. DESCRIPTION: SSCC AN DSMC INTERFACE FOR SCHEDULING TDRSS

Scheduling messages for ISS shall simultaneously share the same communications interface as the Shuttle scheduling messages. The SSCC shall supply conflict-free TDRSS scheduling messages for all ISS elements including ACS, ATV, and HTV. Refer to the Interface Control Document between the Network Control Center Data System and the Mission Operations Centers 451-ICD-NCCDS/MOC Annex 10 for detailed interface requirements.

- a. A circuits of 64 kbps between the DSMC and the SSCC shall be provided for TDRSS scheduling messages. This interface shall be full duplex and shall be between the ISS and the SSP Programs.
- b. A NISN real-time Critical Service is required.
- c. A SSCC and DSMC Mission Critical Systems/MSN security level interface is required.
- d. Refer to the JSC/GSFC Operational Communications ICD for MCC Systems (JSC 11534, Vol. I, latest revision) for detailed interface requirements.

SUPPLIER: GSFC AGENCY: GSFC/450 (GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS 301 805-3459

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/12/05
RESPONSE TRACKING: ZGRAM0047

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/14/05

[PRD] DATABASE RECORD: 580357 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/08/05
INITIAL DATE: 02/08/05
ITEM NUMBER: T44E DATE LAST CHANGED: 06/28/05

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2734 - VIDEO/DATA NETWORK TRANSMISSION

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 580357
ITEM NUMBER: T44E

SECTION: 2734 TIME LAST CHANGED: 13:24:20

REQUESTER: JSC
TEST CODE: CORE JSC/DM STATION

1. DESCRIPTION: CHEYENNE MOUNTAIN MODE 1 DATA CIRCUIT

DOD will provide a 4.8Kbps Mode 1 direct circuit to receive both classified and unclassified messages from Cheyenne Mountains to JSC regarding orbital conjunctions, threat and warning, solar flux data and geomagnetic storm.

REF: T38E FLT SECTION 2734 DBR 578744

SUPPLIER: ER AGENCY: 1 ROPS/DOU (45TH SPACE WING)
RESPONDER: DAVID P. BURCH

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 06/27/05

[PRD] DATABASE RECORD: 580379 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 04/12/05
INITIAL DATE: 02/09/05
ITEM NUMBER: T46EG DATE LAST CHANGED: 06/28/05
SECTION: 2734 TIME LAST CHANGED: 14:16:24

REQUESTER: JSC
TEST CODE: CORE STATION
TRACKING NO. S05-02-3

1. DESCRIPTION: ALTERNATE DATA CIRCUIT TO DAHLGREN

DOD will provide a 4.8Kbps Mode 1 direct circuit to receive both classified and unclassified messages from Alternate Space Control Center (ASCC) in Dahlgren, VA to GSFC. These messages will be forwarded to JSC via an already-existing circuit between GSFC and JSC. The messages report on orbital conjunctions, threat and warning, solar flux data, and geomagnetic storm warnings. These messages would be sent from ASCC if, for any reason, Cheyenne Mountains could not send them.

TECHNICAL CONTACT: Lack Howorth/JSC (TOPO)/ 281 483-2754

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INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2734 - VIDEO/DATA NETWORK TRANSMISSION

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 580379
ITEM NUMBER: T46EG

REF: ITEM T39EG FLT SECTION 2750 DBR 580378

SUPPLIER: ER AGENCY: 1 ROPS/DOU (45TH SPACE WING)
RESPONDER: DAVID P. BURCH

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 06/27/05

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/19/05

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD:	575455	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	02/17/04
		INITIAL DATE:	
ITEM NUMBER:	T1	DATE LAST CHANGED:	11/22/05
SECTION:	2750	TIME LAST CHANGED:	10:42:47
REQUESTER:	JSC		
TEST CODE:	CORE	INFO	
TRACKING NO.	S05-11-1		

1. DESCRIPTION: COMMUNICATION ACCESS CONTROL

Those circuits categorized as "Operations Critical" or "Non-Operations Critical" require operational access approval in accordance with NMI 8610.11 prior to documentation in this Station PRD. Prior to submittal of a circuit requirement in the PRD, it is necessary to consult the appropriate Access Controller (identified below) for circuit criticality previously assigned, or for access to circuits not currently documented.

Access approval must be obtained from the cognizant agency prior to any termination being documented in the PRD.

COMMUNICATION ACCESS CONTROLLERS:

JSC/K. JONES/DV Johnson Space Center Houston, TX 77058 281 483-7671	GSFC/S. NORMAN/291 Goddard Space Flight Center Greenbelt, MD 20771 301 286-8676
MSFC/P. CAUTHEN/EO60 Marshall Space Flight Center Huntsville, AL 35812 256 544-4204	DOD/J. GREENE/DDMS-X Patrick AFB, FL. 32925-6675 321 494-8581
KSC/M. McLAMB/TA-B2-B Kennedy Space Center FL 32899 321 867-8540	NASA HQS/J. TINSLEY/MO National Aeronautics and Space Administration Washington, DC. 20546 202 358-4406
ER/M. GAWEL 45 RANS/DOS Patrick AFB, FL 32899	DFRC/R. ROOD/F NASA Dryden Flight Research Center P.O. BOX 273

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SECTION 2750 - VOICE TERMINATIONS

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[PRD] DATABASE RECORD: 575455
ITEM NUMBER: T1

321 853-8118

Edwards, CA 93523
661 276-2138

[PRD] DATABASE RECORD: 580417 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 01/12/06
INITIAL DATE: 02/14/05
ITEM NUMBER: T1.1 DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 14:42:43

REQUESTER: JSC
TEST CODE: CORE INFO

1. DESCRIPTION: STATION COMM NET

NAME	ITEM	COGNIZANT AGENCY	CRITICALITY
1. MOSCOW CIRCUITS	7	JSC & MOSCOW	O/C FULL-TIME
2. ISS OPS	8	JSC	N/C FULL-TIME
3. ISS FD 1	10	JSC	O/C FULL-TIME
4. PAO MOSCOW	11	MOSCOW	N/C FULL-TIME
5. ISSP MGNT COORD	12	JSC	N/C FULL-TIME
6. ISS TN COORD 1	13	GSFC	O/C FULL-TIME
7. CSA CIRCUITS	14	JSC & MSFC	O/C
8. NISN COMM COORD	15	GSFC	N/C FULL-TIME
9. ALTEC CIRCUITS	16	JSC	N/C
10.RS ISS VHF 1	17	JSC	O/C FULL-TIME
11.RS ISS VHF 2	18	JSC	O/C FULL-TIME
12.ISS SITE COORD	19	GSFC	N/C FULL-TIME
13.WSC PLAYBACK	21	GSFC	N/C FULL-TIME
14.1 S/G 1	22	JSC	O/C FULL-TIME
15.1 S/G 2	23	JSC	O/C FULL-TIME
16.TRANS RUS TO ENG	24	JSC	O/C FULL-TIME
17.IP/GC 1	25	JSC	N/C FULL-TIME
18.BCC CONFIGURATION	26	JSC	N/C
19.ESA CIRCUITS	27	JSC & MOSCOW	N/C
20.NORAD COORD	28	DOD	O/C FULL-TIME
21.NORAD ALTERNATE	29	DOD	O/C FULL-TIME

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SECTION 2750 - VOICE TERMINATIONS

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[PRD] DATABASE RECORD: 580417
ITEM NUMBER: T1.1

22.SEL S/G 1 INHIBIT	30	JSC	O/C FULL-TIME
23.SEL S/G 2 INHIBIT	31	JSC	O/C FULL-TIME
24.JAXA GATEWAY	32	JSC	N/C

[PRD] DATABASE RECORD:	551161	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	05/03/04
		INITIAL DATE:	04/06/99
ITEM NUMBER:	T7T	DATE LAST CHANGED:	03/01/06
SECTION:	2750	TIME LAST CHANGED:	10:06:34

REQUESTER:	JSC				
SUBREQUESTER:	ZTM				
TEST CODE:	CORE	FULL-TIME	ISS		
TRACKING NO.	S002-1	S007-1	S01-02-2	S01-11-1	S011-2
	S02-02-1	S02-10-2	S02-11-1	S03-03-1	S03-04-1
	S03-04-2	S03-09-1	S03-10-2	S03-10-3	S03-11-1
	S04-03-1	S04-05-1	S904-1	S911-1	S03-03-02

1. DESCRIPTION:	NAME	CAP	CH	FROM	TO
NOTE					
A/G 1	T/M	13	JSC	MCC-M	3
A/G 2	T/M	09	JSC	MCC-M	3
R/T EXE COORD	T/M	39	JSC	MCC-M	*
PLAN/STOW COORD	T/M	25	JSC	MCC-M	*
S/T PLN COORD 1	T/M	26	JSC	MCC-M	*
ISS SYS COORD 1	T/M	27	JSC	MCC-M	*
ISS SYS COORD 3	T/M	29	JSC	MCC-M	*
ISS CMD COORD	T/M	40	JSC	MCC-M	*
ISS MER 1	T/M	31	JSC	MCC-M	*
HOUSTON SUPPORT	T/M	08	JSC	MCC-M	*
IP/GC 1	T/M	03	JSC	MCC-M	*
FD 1	M	04	JSC	MCC-M	*
ISS TLM COORD	T/M	16	JSC	MCC-M	*
CAPCOM COORD 1	T/M	02	JSC	MCC-M	*
ISS OPS	T/M	18	JSC	MCC-M	*
1 S/G 1	T/M	19	JSC	MCC-M	3,*
1 S/G 2	T/M	20	JSC	MCC-M	3,*
ISS FD 1	T/M	22	JSC	MCC-M	*
SURGEON R/T	T/M	10	JSC	MCC-M	5*

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SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 551161
ITEM NUMBER: T7T

OCA BFCR	T/M	37	JSC	MCC-M	
ISS SURGEON 1	T/M	14	JSC	MCC-M	
ISS TRAINING COORD	T/M	15	JSC	MCC-M	
ISS SIM COORD 1	T/M	32	JSC	MCC-M	
ISS IST	T/M	33	JSC	MCC-M	*
IP CONF 1	T/M	34	JSC	MCC-M	
2 S/G 1	T/M	35	JSC	MCC-M	
2 S/G 2	T/M	36	JSC	MCC-M	
MOSCOW PATCH MH38	T/M	38	JSC	MCC-M	4
HSG/RIO COORD	T/M	05	JSC	MCC-M	
MOSCOW PATCH MH06	T/M	06	JSC	MCC-M	4, *
ISS SYS COORD 2	T/M	28	JSC	MCC-M	*
ISS SYS COORD 4	T/M	30	JSC	MCC-M	*
ISS AFD 1	T/M	17	JSC	MCC-M	*
OPS PLAN 1	T/M	41	JSC	MCC-M	2
MOSCOW PATCH MH42	T/M	42	JSC	MCC-M	2, 4
TRANS RUS/ENG	T/M	12	JSC	MCC-M	*
FMT COORD 1	T/M	43	JSC	MCC-M	2, *
OPS PLAN SUPT 1	T/M	44	JSC	MCC-M	2
EVA PROCED ISS 1	T/M	45	JSC	MCC-M	2
MOSCOW PATCH MH46	T/M	46	JSC	MCC-M	2, 4
MOSCOW PATCH MH47	T/M	47	JSC	MCC-M	2, 4
ISS SYS COORD 5	T/M	48	JSC	MCC-M	2
MOSCOW SUPPORT	T/M	07	MOSCOW	MCC-H	
PAO MOSCOW	T/M	11	MOSCOW	MCC-H	
RS FD	M	23	MOSCOW	MCC-H	1, *
RS ISS VHF 1	T/M	21	MOSCOW	MCC-H	*
RS ISS VHF 2	T/M	24	MOSCOW	MCC-H	*
TRANS ENG/RUS	T/M	01	MOSCOW	MCC-H	

NOTE: 1. This circuit will remain in monitor mode until approval has been given for talk mode.
2. To be configured for HSR only.
3. A/G 1 and A/G 2 loops are designated restoration for S/G 1 and S/G 2 during normal ISS, not to interrupt normal shuttle operations.

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 551161
ITEM NUMBER: T7T

4. This loop will be configured as required.

NOTE: The circuits with an asterisk (*) routed from JSC to MSFC/POIC
in the event of a Backup Command Control (BCC) activation. This
will allow the circuits to remain active between MSFC/POIC and
MCC-M during BCC activation.

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 05/03/04

[PRD] DATABASE RECORD: 556293 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/17/04
INITIAL DATE: 07/18/00
ITEM NUMBER: GTY8T DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 14:44:31

REQUESTER: GSFC JSC NASA HQ
SUBREQUESTER: HQ
TEST CODE: CORE FULL-TIME
TRACKING NO. S007-1 S01-02-2 S03-01-1 S03-09-1

1. DESCRIPTION: ISS OPS

RESPONSIBLE AGENCY: JSC

REF	CAP	TERMINATION LOCATION	NOTE
---	---	-----	----
G1	M	EXTEND TO GSFC	

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/17/04

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 556293
ITEM NUMBER: GTY8T

[PRD] DATABASE RECORD: 575458 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/17/04
INITIAL DATE:
ITEM NUMBER: GTY8.1G DATE LAST CHANGED: 02/26/04
SECTION: 2750 TIME LAST CHANGED: 15:09:34

REQUESTER: GSFC JSC NASA HQ
TEST CODE: CORE FULL-TIME

1. DESCRIPTION: ISS OPS

RESPONSIBLE AGENCY: GSFC

REF	CAP	TERMINATION LOCATION	NOTE
Y1	M	EXTEND TO HQ	1
G2	M	EXTEND TO GSFC/NIC	
G3	M	EXTEND TO WSC	

NOTE: 1. Voice loop will be extended to the Action Center for HQ ISS staff.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/26/04

[PRD] DATABASE RECORD: 575457 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/17/04
INITIAL DATE:
ITEM NUMBER: GTY10T DATE LAST CHANGED: 02/17/04
SECTION: 2750 TIME LAST CHANGED: 14:58:07

REQUESTER: GSFC JSC NASA HQ
TEST CODE: CORE FULL-TIME

1. DESCRIPTION: ISS FD

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 575457
ITEM NUMBER: GTY10T

RESPONSIBLE AGENCY: JSC

REF	CAP	TERMINATION LOCATION	NOTE
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G1	M	EXTEND TO GSFC	

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/17/04

[PRD] DATABASE RECORD:	575462	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	02/17/04
		INITIAL DATE:	
ITEM NUMBER:	GTY10.1G	DATE LAST CHANGED:	02/26/04
SECTION:	2750	TIME LAST CHANGED:	15:09:56

REQUESTER:	GSFC	JSC	NASA HQ
TEST CODE:	CORE	FULL-TIME	

1. DESCRIPTION: ISS FD

RESPONSIBLY AGENCY: GSFC

REF	CAP	TERMINATION LOCATION	NOTE
---	---	-----	----
Y1	M	EXTEND TO HQ	1
G2	M	EXTEND TO GSFC/NIC	
G3	M	EXTEND TO WSC	

NOTE 1. Voice loop will be extended to the Action Center for the ISS staff.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/26/04

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

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[PRD] DATABASE RECORD:	575463	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	02/17/04
		INITIAL DATE:	
ITEM NUMBER:	GTY11T	DATE LAST CHANGED:	02/17/04
SECTION:	2750	TIME LAST CHANGED:	15:00:18

REQUESTER:	GSFC	JSC	NASA HQ
TEST CODE:	CORE	FULL-TIME	

1. DESCRIPTION: PAO MOSCOW

RESPONSIBLE AGENCY: JSC

REF	CAP	TERMINATION LOCATION	NOTE
---	---	-----	----
T1	T/M	EXTEND TO GSFC	

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/17/04

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[PRD] DATABASE RECORD:	575464	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	02/17/04
		INITIAL DATE:	
ITEM NUMBER:	GTY11.1G	DATE LAST CHANGED:	02/26/04
SECTION:	2750	TIME LAST CHANGED:	15:10:46

REQUESTER:	GSFC	JSC	NASA HQ
TEST CODE:	CORE	FULL-TIME	

1. DESCRIPTION: PAO MOSCOW

RESPONIBLE AGENCY: GSFC

REF	CAP	TERMINATION LOCATION	NOTE
---	---	-----	----
Y1	T/M	EXTEND TO HQ	1
G2	M	EXTEND TO GSFC/NIC	

NOTE: 1. Voice loop will be extended to the Action Center for the ISS staff.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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SECTION 2750 - VOICE TERMINATIONS

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[PRD] DATABASE RECORD: 575464
ITEM NUMBER: GTY11.1G

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/26/04

[PRD] DATABASE RECORD: 575465 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/17/04
INITIAL DATE:
ITEM NUMBER: GTY12T DATE LAST CHANGED: 02/17/04
SECTION: 2750 TIME LAST CHANGED: 15:18:28

REQUESTER: GSFC JSC NASA HQ
TEST CODE: CORE FULL-TIME

1. DESCRIPTION: ISSP MANAGEMENT COORD

RESPONSIBLE AGENCY: JSC

REF	CAP	TERMINATION LOCATION	NOTE
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T1	T/M	EXTEND TO GSFC	

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/17/04

[PRD] DATABASE RECORD: 575466 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/17/04
INITIAL DATE:
ITEM NUMBER: GTY12.1G DATE LAST CHANGED: 02/26/04
SECTION: 2750 TIME LAST CHANGED: 15:11:09

REQUESTER: GSFC JSC NASA HQ
TEST CODE: CORE FULL-TIME

1. DESCRIPTION: ISSP MANAGEMENT COORD

RESPONSIBLE AGENCY: GSFC

REF	CAP	TERMINATION LOCATION	NOTE
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CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

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[PRD] DATABASE RECORD: 575466
ITEM NUMBER: GTY12.1G

Y1 T/M EXTEND TO HQ 1

NOTE: 1. Voice loop will be extended to the Action Center for the ISS staff.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/26/04

[PRD] DATABASE RECORD: 575467 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/17/04
INITIAL DATE:
ITEM NUMBER: GHT13G DATE LAST CHANGED: 02/26/04
SECTION: 2750 TIME LAST CHANGED: 15:11:32

REQUESTER: GSFC MSFC JSC
TEST CODE: CORE FULL-TIME

1. DESCRIPTION: ISS TN COORD 1

RESPONSIBLE AGENCY: GSFC

REF	CAP	TERMINATION LOCATION	NOTE
T1	T/M	EXTEND TO JSC	
G2	T/M	EXTEND TO WSC	
G3	T/M	EXTEND TO NIC	
M4	T/M	EXTEND TO MSFC	

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/26/04

[PRD] DATABASE RECORD: 575476 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/17/04
INITIAL DATE:
ITEM NUMBER: GHT13.1T DATE LAST CHANGED: 02/17/04
SECTION: 2750 TIME LAST CHANGED: 15:23:00

REQUESTER: GSFC MSFC JSC
TEST CODE: CORE FULL-TIME

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

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[PRD] DATABASE RECORD: 575476
ITEM NUMBER: GHT13.1T

1. DESCRIPTION: ISS TN COORD 1

RESPONSIBLE AGENCY: JSC

REF	CAP	TERMINATION LOCATION	NOTE
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T1	T/M	EXTEND TO MCC	

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/17/04

[PRD] DATABASE RECORD:	575477	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	02/17/04
		INITIAL DATE:	
ITEM NUMBER:	GHT13.2H	DATE LAST CHANGED:	10/14/04
SECTION:	2750	TIME LAST CHANGED:	09:30:02

REQUESTER: GSFC MSFC JSC
TEST CODE: CORE FULL-TIME

1. DESCRIPTION: ISS TN COORD 1

RESPONSIBLE AGENCY: MSFC

REF	CAP	TERMINATION LOCATION	NOTE
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M1	T/M	EXTEND TO HOSC	

SUPPLIER: MSFC AGENCY: MSFC/EO60 (MARSHALL SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/20/04

[PRD] DATABASE RECORD:	556625	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	07/10/06
		INITIAL DATE:	08/21/00
ITEM NUMBER:	T14HT	DATE LAST CHANGED:	07/10/06
SECTION:	2750	TIME LAST CHANGED:	15:18:06

REQUESTER: JSC

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 556625
ITEM NUMBER: T14HT

SUBREQUESTER:	CSA	GSS	OE	PTOC
	RMPSR			
TEST CODE:	CORE			
TRACKING NO.	S01-02-3	S01-03-2	S01-04-1	S01-05-4
	S01-07-5	S01-08-1	S01-10-1	S01-11-3
	S03-06-1	S03-08-2	S03-08-3	S04-08-1
	S06-07-1			S05-02-4

1. DESCRIPTION: VOICE REQUIREMENT FOR CSA/ESR

NOTE: A TOTAL OF 60 VOICE CIRCUITS ON CSA GATEWAY. THE VOICE LOOPS BELOW WILL BE CONFIGURED FOR DIFFERENT PHASES OF THE MISSION AND SIMULATIONS.

MISSION SUPPORT

NAME	CAP	FROM	TO	RESTRICTION NOTES
----	----	----	----	-----
1A/G 1	M	JSC	CSA	5
1A/G 2	M	JSC	CSA	5
1S/G 1	M	JSC	CSA	5
1S/G 2	M	JSC	CSA	5
1SCI 1	T/M	MSFC	CSA/JSC	3,6,7
1SCI 2	T/M	MSFC	CSA/JSC	3,6,7
1SCI 3	T/M	MSFC	CSA/JSC	3,6,7
1SCI 4	T/M	MSFC	CSA/JSC	3,6,7
1SCI 5	T/M	MSFC	CSA/JSC	3,6,7
ACO 1	T/M	JSC	CSA	1
ADCO 1	T/M	JSC	CSA	1
ADCO MPSR 1	T/M	JSC	CSA	1
AFD CONF 1	T/M	JSC	CSA	1
AVU COORD	T/M	JSC	CSA	1,2
CATO 1	T/M	JSC	CSA	1
CATO MPSR 1	T/M	JSC	CSA	1
CIO 1	T/M	JSC	CSA	1
COMMAND 2	T/M	JSC	CSA	1
CSA COORD	T/M	JSC	CSA	5
EVA	T/M	JSC	CSA	1
EVA MPSR	T/M	JSC	CSA	1

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INTERNATIONAL SPACE STATION ORBITAL VOL-I
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[PRD] DATABASE RECORD: 556625
ITEM NUMBER: T14HT

EVA ISS 1	T/M	JSC	CSA	1
EVA MPSR ISS 1	T/M	JSC	CSA	1
FAO	T/M	JSC	CSA	1
FCR SYS 1	T/M	JSC	CSA	1
FD 1	M	JSC	CSA	5
FMT COORD 1	T/M	JSC	CSA	1
GEM AV 1	T/M	JSC	CSA	1
HLS CONF 1	T/M	JSC	CSA	3,6
HLS PLNG 1	T/M	JSC	CSA	3,6
INCO 1	T/M	JSC	CSA	1
IP/GC 1	T/M	JSC	CSA	4
ISS AFD 1	T/M	JSC	CSA	1
ISS CAPCOM 1	T/M	JSC	CSA	1
ISS COMMAND 1	T/M	JSC	CSA	1
ISS EVR 1	T/M	JSC	CSA	1,2,4
ISS FD 1	T/M	JSC	CSA	1
ISS MER MGR 1	T/M	JSC	CSA	1,2
ISS MER PROB	T/M	JSC	CSA	1,3
ISS OPS	M	JSC	CSA	5
ISS SAFETY CRD	T/M	JSC	CSA	1,2,3
ISS SPAN	T/M	JSC	CSA	1
ISS SYS COORD3	T/M	JSC	CSA	1
LIS COORD 1	T/M	MSFC	CSA/JSC	3,6
MOCR GNC/PROP1	T/M	JSC	CSA	1
MOCR SPEC 1	T/M	JSC	CSA	1
MOCR SYS 1	T/M	JSC	CSA	1
OC 1	T/M	MSFC	CSA/JSC	3,6
OCA BFCR	M	JSC	CSA	5
OCA RFCR	M	JSC	CSA	5
ODIN 1	T/M	JSC	CSA	1
OPS PLAN 1	T/M	JSC	CSA	1
OPS PLAN SUPT1	T/M	JSC	CSA	1
ORT COORD	T/M	JSC	CSA	1
OSO 1	T/M	JSC	CSA	1
OSO MPSR 1	T/M	JSC	CSA	1
OSVS COORD	T/M	JSC	CSA	1
PAYLOAD CONF 1	T/M	JSC	CSA	3,6
PHALCON 1	T/M	JSC	CSA	1
PL SCI 1	T/M	JSC	CSA	3,6

CLASSIFICATION UNCLASSIFIED

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[PRD] DATABASE RECORD: 556625
ITEM NUMBER: T14HT

POD 1	T/M	MSFC	CSA/JSC	3,6
PODF SUPPORT 1	T/M	MSFC	CSA/JSC	3,6
POIC STOWAGE 1	T/M	MSFC	CSA/JSC	3,6
PRIME OPS 1	T/M	JSC	CSA	3,6
PRO CONF 1	T/M	JSC	CSA	3,6
PSE 1	T/M	MSFC	CSA/JSC	3,6
RINT 1	T/M	JSC	CSA	1
RIO MOCR 1	T/M	JSC	CSA	1
RMS COORD 1	T/M	JSC	CSA	1
ROBO 1	T/M	JSC	CSA	1,2
ROBO COORD 1	T/M	JSC	CSA	1,2
ROBO SYS 1	T/M	JSC	CSA	1,2
RPI OPS	T/M	JSC	CSA	3,6
RS ISS VHF 1	M	MH21	JSC	5
RS ISS VHF 2	M	MH24	JSC	5
SOC 1	T/M	MSFC	CSA/JSC	3,6
SVF COORD 1	T/M	JSC	CSA	1
SYS COORD 1	T/M	JSC	CSA	1
THOR 1	T/M	JSC	CSA	1
TRANS RUS TO				
ENG	M	JSC	CSA	5
VV DYN	T/M	JSC	CSA	1
CSA CONTROL	T/M	JSC	CSA	8

SIMMULATION LOOPS

2 S/G 1	M	JSC	CSA	5
2 S/G 2	M	JSC	CSA	5
2 SCI 1	T/M	MSFC	CSA/JSC	3,6,7
2 SCI 2	T/M	MSFC	CSA/JSC	3,6,7
2 SCI 3	T/M	MSFC	CSA/JSC	3,6,7
2 SCI 4	T/M	MSFC	CSA/JSC	3,6,7
2 SCI 5	T/M	MSFC	CSA/JSC	3,6,7
ACO 2	T/M	JSC	CSA	1
ADCO 2	T/M	JSC	CSA	1
ADCO MSPR 2	T/M	JSC	CSA	1
CATO 2	T/M	JSC	CSA	1
CATO MSPR 2	T/M	JSC	CSA	1
CIO 2	T/M	JSC	CSA	1

CLASSIFICATION UNCLASSIFIED

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PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
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PROGRAM NUMBER: 30000

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[PRD] DATABASE RECORD: 556625
ITEM NUMBER: T14HT

EVA ISS 2	T/M	JSC	CSA	1
EVA MPSR ISS 2	T/M	JSC	CSA	1
FCR SYS 2	T/M	JSC	CSA	1
FMT COORD 2	T/M	JSC	CSA	1
IP/GC 2	T/M	JSC	CSA	4
ISS AFD 2	T/M	JSC	CSA	1
ISS CAPCOM 2	T/M	JSC	CSA	1
ISS COMMAND 2	T/M	JSC	CSA	1
ISS EVA 2	T/M	JSC	CSA	1,2,4
ISS FD 2	T/M	JSC	CSA	1
ISS MCC COORD2	T/M	JSC	CSA	1,2
ISS SIM DATA	T/M	JSC	CSA	1
LIS COORD 2	T/M	MSFC	CSA/JSC	1
OC 2	T/M	MSFC	CSA/JSC	3,6
ODIN 2	T/M	JSC	CSA	1
OPS PLAN 2	T/M	JSC	CSA	1
OPS PLAN SUPT2	T/M	JSC	CSA	1
OSO 2	T/M	JSC	CSA	1
OSO MPSR 2	T/M	JSC	CSA	1
PHALCON 2	T/M	JSC	CSA	1
POD 2	T/M	MSFC	CSA/JSC	3,6
POIC STOWAGE 2	T/M	MSFC	CSA/JSC	3,6
PRIME OPS 2	T/M	JSC	CSA	3,6
RINT 2	T/M	JSC	CSA	1
RIO MOCR 2	T/M	JSC	CSA	1
RMS COORD 2	T/M	JSC	CSA	1
ROBO 2	T/M	JSC	CSA	1,2
ROBO COORD 2	T/M	JSC	CSA	1,2
ROBO SYS 2	T/M	JSC	CSA	1,2
SIM ISS OPS	M	JSC	CSA	5
SIM ISS SYS				
COORD 3	T/M	JSC	CSA	1
SIM RS ISS VHF1	M	JSC	CSA	5
SIM RS ISS VHF2	M	JSC	CSA	5
SOC 2	T/M	MSFC	CSA/JSC	3,6
SYS COORD 2	T/M	JSC	CSA	1
THOR 2	T/M	JSC	CSA	1

NOTE: 1. Restricted to Remote MPSR (RMPSR)

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 556625
ITEM NUMBER: T14HT

2. Restricted to Operation Engineering Center (OEC)
3. Restricted to Payload Telescience Operation Center (PTOC)
4. Restricted to Ground Segment Support (GSS)
5. For all areas
6. Does NOT include RMPSR and OEC
7. Will be configured when requested
8. CSA coordination with Houston Voice, Houston TV, and Comm Control for configuration and gateway issues.

SUPPLIER: MSFC AGENCY: MSFC/EO60 (MARSHALL SPACE FLIGHT CENTER)
RESPONDER: MIKE BLUM 256 544-5102

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/10/06

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)
RESPONDER: KEN JONES 281 483-7671

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/10/06

[PRD] DATABASE RECORD: 561754 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 11/14/02
INITIAL DATE: 02/12/02
ITEM NUMBER: GHT15G DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 09:59:54

REQUESTER: GSFC MSFC JSC
TEST CODE: STSALL

ASSOCIATED DOC: FLT-I
TRACKING NO. S02-02-1 S02-11-1

1. DESCRIPTION: NISN COMM COORD

Responsible Agency: GSFC

REF	CAP	NOTE	TERMINATION LOCATION
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OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
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[PRD] DATABASE RECORD: 561754
ITEM NUMBER: GHT15G

T1	T/M	1	Extend to JSC
H2	T/M	1	Extend to MSFC
G3	T/M	1	Distribute to GSFC NISN internal areas

NOTE 1: Orderwire between JSC OST, GSFC COMM MGR, and MSFC NISN (ENMC)
and Russian Services Engineering Group (RSEG) for all NISN related voice
data issues.

REF: FLT VOL I: ITEM GHT157G SECTION 2750 DBR 567701

SUPPLIER: GSFC AGENCY: GSFC/450 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 11/22/02

[PRD] DATABASE RECORD:	557096	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	11/14/02
		INITIAL DATE:	09/25/00
ITEM NUMBER:	GHT15.1T	DATE LAST CHANGED:	01/12/06
SECTION:	2750	TIME LAST CHANGED:	14:45:33

REQUESTER:	GSFC	MSFC	JSC
TEST CODE:	CORE	FULL-TIME	

ASSOCIATED DOC: FLT-I
TRACKING NO. S009-1 S02-11-1

1. DESCRIPTION: NISN COMM COORD

Responsible Agency: JSC

REF	CAP	NOTE	TERMINATION LOCATION
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T1	T/M	1	MCC DISTRIBUTION

NOTE: 1. Orderwire between JSC OST, GSFC COMM MANAGER, and MSFC NISN
Service Group for all NISN related voice and data issues.

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PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

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[PRD] DATABASE RECORD: 557096
ITEM NUMBER: GHT15.1T

REF: FLT VOL-I ITEM GHT157.1T SECTION FLS2750 DBR 557526

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 11/14/02

[PRD] DATABASE RECORD: 561755 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 03/27/02
INITIAL DATE: 02/12/02
ITEM NUMBER: GHT15.2H DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 14:45:57

REQUESTER: GSFC MSFC JSC
TEST CODE: CORE FULL-TIME

ASSOCIATED DOC: FLT-I
TRACKING NO. S02-02-1

1. DESCRIPTION: NISN COMM COORD

Responsible Agency: MSFC

REF	CAP	NOTE	TERMINATION LOCATION
H1	T/M	1	Distribution to MSFC ENMC/RSEG
H2	T/M	2	Distribution to MSFC HOSC

NOTE 1: Orderwire between JSC OST, GSFC COMM MGR, and MSFC NISN (ENMC) and Russian Services Engineering Group (RSEG) for all NISN related voice and data issues.

NOTE 2: Used for NISN voice and data communications issues between GSFC COMM MGR, JSC OST, MSFC IST, and others as required.

REF: FLT VOL-I ITEM GHT157.2H SECTION 2750 DBR 567703

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PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 561755
ITEM NUMBER: GHT15.2H

SUPPLIER: MSFC AGENCY: MSFC/EO60 (MARSHALL SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 03/27/02

[PRD] DATABASE RECORD: 558532 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 05/25/06
INITIAL DATE: 02/07/01
ITEM NUMBER: T16T DATE LAST CHANGED: 08/11/06
SECTION: 2750 TIME LAST CHANGED: 08:59:50

REQUESTER: JSC
SUBREQUESTER: ASI
TEST CODE: CORE MPLM
TRACKING NO. S01-02-2 S01-04-2 S01-07-2 S03-08-1 S06--01-2
S06-05-1 S06-05-1A S06-05-2

1. DESCRIPTION: ASI GATEWAY

A TOTAL OF 17 ASI GATEWAY VOICE CHANNELS ARE AVAILABLE AND WILL BE
CONFIGURED TO LOOPS LISTED AS REQUIRED FOR EACH MISSION PHASE

SHUTTLE FLIGHT OPERATIONS:

NAME	CAP	FROM JSC TO	NOTE
----	---	-----	----
1 A/G 1	M	ALTEC	5
1 A/G 2	M	ALTEC	5
AFD CONF 1	M	ALTEC	1
ALTEC COORD 1	T/M	FROM ALTEC TO JSC	4,6
ECLS COORD	M	ALTEC	
EGIL 1	M	ALTEC	3
FD 1	M	ALTEC	
INCO 1	M	ALTEC	2
IMC COORD 1	T/M	ALTEC	
ISS AFD 1	M	ALTEC	1
ISS FD 1	M	ALTEC	
ISS MER 1	T/M	ALTEC	
ISS MER MGR 1	T/M	ALTEC	

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SECTION 2750 - VOICE TERMINATIONS

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[PRD] DATABASE RECORD: 558532
ITEM NUMBER: T16T

ISS MER PROB	T/M	ALTEC	
PHALCON COORD	T/M	ALTEC	3
PRIME OPS 1	M	ALTEC	
ODIN COORD 1	T/M	ALTEC	
OIS 264	T/M	ALTEC	4
OSO COORD 1	T/M	ALTEC	
1S/G 1	M	ALTEC	2
1S/G 2	M	ALTEC	2
STAR 1	T/M	ALTEC	
TCS COORD 1	T/M	ALTEC	

ISS ESR VOICE LOOP CONFIGURATION WITH ISS MER MANAGER APPROVAL:

ADCO 1	M	ALTEC	6
ADCO MPSR 1	M	ALTEC	6
ASMBLY COORD 1	M	ALTEC	6
ASMBLY OPS 1	M	ALTEC	6
CATO 1	M	ALTEC	6
CATO SUPPORT 1	M	ALTEC	6
ECLS 1	M	ALTEC	6
EECON 1	M	ALTEC	6
EVA ISS	M	ALTEC	6
FAO 1	M	ALTEC	6
ISS MER 1 COORD	T/M	ALTEC	6
ODIN 1	M	ALTEC	6
OPS PLAN 1	T/M	ALTEC	6
OSO 1	M	ALTEC	6
PHALCON 1	M	ALTEC	6
THOR 1	M	ALTEC	6

MPLM SIM SUPPORT OR CUSTOMER SUPPORT ROOM COORDINATION:

ADCO 2	M	ALTEC	7
ADCO MPSR 2	M	ALTEC	7
AFD CONF 2	M	ALTEC	7
2 A/G 1	M	ALTEC	7

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[PRD] DATABASE RECORD: 558532
ITEM NUMBER: T16T

2 A/G 2	M	ALTEC	7
ALTEC COORD 2	T/M	FROM ALTEC TO JSC	7
ASMBLY COORD 2	M	ALTEC	7
ASMBLY OPS 2	M	ALTEC	7
CATO 2	M	ALTEC	7
CATO SUPPORT 2	M	ALTEC	7
CSR COORD	T/M	ALTEC	7
ECLS 2	M	ALTEC	7
EECON 2	M	ALTEC	7
EGIL 2	M	ALTEC	7
EVA ISS 2	M	ALTEC	7
FAO 2	M	ALTEC	7
FD 2	M	ALTEC	7
INCO 2	M	ALTEC	7
IMC COORD 2	T/M	ALTEC	7
ISS AFD 2	M	ALTEC	7
ISS FD 2	M	ALTEC	7
ISS MER 2	T/M	ALTEC	7
ISS MER COORD 2	T/M	ALTEC	7
ISS MER MGR 2	T/M	ALTEC	7
ISS MER PROB 2	T/M	ALTEC	7
ODIN 2	M	ALTEC	7
ODIN COORD 2	T/M	ALTEC	7
OPS PLAN 2	T/M	ALTEC	7
OSO 2	M	ALTEC	7
OSO COORD 2	T/M	ALTEC	7
PHALCON 2	M	ALTEC	7
PHALCON COORD 2	T/M	ALTEC	7
PRIME OPS 2	T/M	ALTEC	7
2 S/G 1	M	ALTEC	7
2 S/G 2	M	ALTEC	7
STAR 2	T/M	ALTEC	7
TCS COORD 2	T/M	ALTEC	7
THOR 2	M	ALTEC	7

NOTE: 1. During Station support change "AFD CONF 1 (M)" to ISS AFD 1 (M) on MER Manager request or ASI request.

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[PRD] DATABASE RECORD: 558532
ITEM NUMBER: T16T

2. During Station support change "INCO 1 (M)" to "1 S/G 2 (M)" on MER Manager request or ASI request.
3. During Station support change "EGIL 1 (M)" to "PHALCON COORD (T/M)" on MER Manager request or ASI request.
4. During Pre-Launch, from L-5 hrs up to L+1 hour, this channel is configured with the KSC OIS 264 for KSC/JSC/ALTEC coordination. These loops can be configured on ASI request.
5. A/G 1 and A/G 2 may be combined on a single circuit at the ISS MER Manager or the ASI request.
6. ESR loops can be configured on ASI request with approval from the ISS MER Manager.
7. Loops can be configured on ASI request for MPLM Sim Support or Customer Support Room (CSR) coordination.

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)
RESPONDER: KEN JONES

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 05/25/06

[PRD] DATABASE RECORD: 558566 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 06/23/04
INITIAL DATE: 02/12/01
ITEM NUMBER: T17T DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 14:46:20

REQUESTER: JSC
TEST CODE: CORE FULL-TIME
TRACKING NO. S01-02-2 S04-06-2

1. DESCRIPTION: RS ISS VHF 1

RESPONSIBLE AGENCY: JSC

REF	CAP	TERMINATION LOCATION	NOTE
T1	T/M	EXTEND TO GSFC	
T2	T/M	EXTEND TO MSFC	1

NOTE: 1. MSFC will stay in monitor mode until the ISS FD request for the loop to be configured in talk mode.

CLASSIFICATION UNCLASSIFIED

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[PRD] DATABASE RECORD: 558566
ITEM NUMBER: T17T

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 06/23/04

[PRD] DATABASE RECORD: 575468 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 04/06/04
INITIAL DATE:
ITEM NUMBER: TY17.1G DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 14:46:36

REQUESTER: JSC NASA HQ
TEST CODE: CORE FULL-TIME
TRACKING NO. S04-04-1

1. DESCRIPTION: RS ISS VHF 1

RESPONSIBLE AGENCY: GSFC

REF	CAP	TERMINATION LOCATION	NOTE
T1	T/M	EXTEND TO DFRC	
T2	T/M	EXTEND TO WLP	
T3	T/M	EXTEND TO WSC	
Y4	M	EXTEND TO HQ	1

NOTE: Voice loop will be extended to the Action Center for the ISS staff.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/29/04

[PRD] DATABASE RECORD: 575469 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/17/04
INITIAL DATE:
ITEM NUMBER: T17.2X DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 14:46:55

REQUESTER: JSC

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 575469
ITEM NUMBER: T17.2X

TEST CODE: CORE FULL-TIME

1. DESCRIPTION: RS ISS VHF 1

RESPONSIBLE AGENCY: DFRC

REF	CAP	TERMINATION LOCATION	NOTE
T1	T/M	DFRC COMM	

SUPPLIER: DFRC AGENCY: DFRC/OS (DRYDEN FLIGHT RESEARCH CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/30/04

[PRD] DATABASE RECORD:	576782	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	06/23/04
ITEM NUMBER:	T17.3H	INITIAL DATE:	06/22/04
SECTION:	2750	DATE LAST CHANGED:	01/12/06
		TIME LAST CHANGED:	14:47:27

REQUESTER: JSC
TEST CODE: CORE FULL-TIME
TRACKING NO. S04-06-2

1. DESCRIPTION: RS ISS VHF 1

RESPONSIBLE AGENCY: MSFC

REF	CAP	TERMINATION LOCATION	NOTE
T1	T/M	EXTEND TO POIC	1

NOTE: 1. MSFC will be configured in monitor until the ISS FD request talk capability on the loop.

SUPPLIER: MSFC AGENCY: MSFC/EO60 (MARSHALL SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 06/30/04

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PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

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[PRD] DATABASE RECORD:	575470	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	02/17/04
		INITIAL DATE:	
ITEM NUMBER:	T18T	DATE LAST CHANGED:	01/12/06
SECTION:	2750	TIME LAST CHANGED:	14:47:51
REQUESTER:	JSC		
TEST CODE:	CORE	FULL-TIME	

1. DESCRIPTION: RS ISS VHF 2

RESPONSIBLE AGENCY: JSC

REF	CAP	TERMINATION LOCATION	NOTE
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T1	T/M	EXTEND TO GSFC	1

NOTE: 1. Downlink receive capability on Soyuz VHF 2. The uplink capability on VHF 2 is for emergency only.

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/17/04

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[PRD] DATABASE RECORD:	575471	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	02/17/04
		INITIAL DATE:	
ITEM NUMBER:	T18.1G	DATE LAST CHANGED:	01/12/06
SECTION:	2750	TIME LAST CHANGED:	14:48:18
REQUESTER:	JSC		
TEST CODE:	CORE	FULL-TIME	

1. DESCRIPTION: RS ISS VHF 2

RESPONSIBLE AGENCY: GSFC

REF	CAP	TERMINATION LOCATION	NOTE
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T1	T/M	EXTEND TO DFRC	1
T2	T/M	EXTEND TO WLP	1
T3	T/M	EXTEND TO WSC	1

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INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 575471
ITEM NUMBER: T18.1G

NOTE: 1. Downlink receive capability on Soyuz VHF 2. The uplink
capability on VHF 2 is for emergency only.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/26/04

[PRD] DATABASE RECORD: 575472 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/17/04
INITIAL DATE:
ITEM NUMBER: T18.2X DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 14:48:44

REQUESTER: JSC
TEST CODE: CORE FULL-TIME

1. DESCRIPTION: RS ISS VHF 2

RESPONSIBLE AGENCY: DFRC

REF	CAP	TERMINATION LOCATION	NOTE
---	---	-----	----
T1	T/M	DFRC COMM	1

NOTE: 1. Downlink receive capability on Soyuz VHF 2. The uplink
capability on VHF 2 is for emergency only.

SUPPLIER: DFRC AGENCY: DFRC/OS (DRYDEN FLIGHT RESEARCH CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/30/04

[PRD] DATABASE RECORD: 575473 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/17/04
INITIAL DATE:
ITEM NUMBER: T19T DATE LAST CHANGED: 02/17/04
SECTION: 2750 TIME LAST CHANGED: 16:59:08

REQUESTER: JSC
TEST CODE: CORE FULL-TIME

CLASSIFICATION UNCLASSIFIED

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PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 575473
ITEM NUMBER: T19T

1. DESCRIPTION: ISS SITE COORD

RESPONSIBLE AGENCY: JSC

REF	CAP	TERMINATION LOCATION	NOTE
T1	T/M	EXTEND TO GSFC	1

NOTE: 1. ISS CITE COORD is for VHF 1 & 2 support only.

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/17/04

[PRD] DATABASE RECORD:	575474	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	06/24/04
ITEM NUMBER:	T19.1G	INITIAL DATE:	06/23/04
SECTION:	2750	DATE LAST CHANGED:	07/26/04
		TIME LAST CHANGED:	09:28:08

REQUESTER: JSC
TEST CODE: CORE FULL-TIME
TRACKING NO. S04-06-02

1. DESCRIPTION: ISS SITE COORD

RESPONSIBLE AGENCY: GSFC

REF	CAP	TERMINATION LOCATION	NOTE
T1	T/M	EXTEND TO DRFC	1
T2	T/M	EXTEND TO WLP	1
T3	T/M	EXTEND TO WSC	1
T4	T/M	EXTEND TO MSFC	2

NOTE: 1. ISS SITE COORD is for VHF 1 & 2 support only.
2. ISS SITE COORD is for VHF 1 support only.

CLASSIFICATION UNCLASSIFIED

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OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 575474
ITEM NUMBER: T19.1G

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/23/04

[PRD] DATABASE RECORD: 575475 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/17/04
INITIAL DATE:
ITEM NUMBER: T19.2X DATE LAST CHANGED: 07/30/04
SECTION: 2750 TIME LAST CHANGED: 14:34:53

REQUESTER: JSC
TEST CODE: CORE FULL-TIME

1. DESCRIPTION: ISS SITE COORD

RESPONSIBLE AGENCY: DFRC

REF	CAP	TERMINATION LOCATION	NOTE
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T1	T/M	EXTEND TO DFRC COMM	1

NOTE: 1. ISS SITE COORD is for VHF 1 & 2 support only.

SUPPLIER: DFRC AGENCY: DFRC/OS (DRYDEN FLIGHT RESEARCH CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/30/04

[PRD] DATABASE RECORD: 576783 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 06/23/04
INITIAL DATE: 06/22/04
ITEM NUMBER: T19.3H DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 14:49:14

REQUESTER: JSC
TEST CODE: CORE FULL-TIME
TRACKING NO. S04-06-2

1. DESCRIPTION: ISS SITE COORD

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 576783
ITEM NUMBER: T19.3H

REPOSIBLE AGENCY: MSFC

REF	CAP	TERMINATION LOCATION	NOTE
T1	T/M	EXTEND TO IST	ONLY

SUPPLIER: MSFC AGENCY: MSFC/EO60 (MARSHALL SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 06/30/04

[PRD] DATABASE RECORD: 558796 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/11/02
INITIAL DATE: 03/29/01
ITEM NUMBER: GHT21G DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 14:51:05

REQUESTER: GSFC MSFC JSC
TEST CODE: CORE FULL-TIME
TRACKING NO. S01-03-1 S02-02-1

1. DESCRIPTION: WSC PLAYBACK COORD

Responsible Agency: GSFC

REF	CAP	TERMINATION LOCATION	NOTE
T1	T/M	EXTEND TO JSC	1
H2	T/M	EXTEND TO MSFC	1
G3	T/M	EXTEND TO WSC	1

NOTE 1: This circuit will be used for all Shuttle and Station Playbacks.

REF: FLT VOL-I ITEM GHT158G SECTION 2750 DBR 558795

SUPPLIER: GSFC AGENCY: GSFC/450 (GODDARD SPACE FLIGHT CENTER)

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

CONTINUED

[PRD] DATABASE RECORD: 558796
ITEM NUMBER: GHT21G

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 10/03/02

[PRD] DATABASE RECORD: 561724 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/11/02
INITIAL DATE: 02/11/02
ITEM NUMBER: GHT21.1T DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 14:51:52

REQUESTER: GSFC MSFC JSC
TEST CODE: CORE FULL-TIME
TRACKING NO. S02-02-1

1. DESCRIPTION: WSC PLAYBACK COORD

Responsible Agency: JSC

REF:	CAP	TERMINATION LOCATION	NOTE
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T1	T/M	Telcom consoles	1

NOTE 1: This circuit will be used for all Shuttle and Station Playbacks.

REF: FLT VOL-I ITEM GHT13.1T SECTION 2750 DBR 567706

SUPPLIER: JSC AGENCY: JSC/DB (T - JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/11/02

[PRD] DATABASE RECORD: 561725 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/02/02
INITIAL DATE: 02/11/02
ITEM NUMBER: GHT21.2H DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 14:53:04

REQUESTER: GSFC MSFC JSC
TEST CODE: CORE FULL-TIME
TRACKING NO. S02-02-1

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

CONTINUED

[PRD] DATABASE RECORD: 561725
ITEM NUMBER: GHT21.2H

1. DESCRIPTION: WSC PLAYBACK COORD

Responsible Agency: MSFC

REF:	CAP	TERMINATION LOCATION	NOTE
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H1	T/M	MSFC local distribution	1

NOTE 1: This circuit will be used for all Shuttle and Station Playbacks.

REF: FLT VOL-I ITEM GHT13.2H SECTION 2750 DBR 567707

SUPPLIER: MSFC AGENCY: MSFC/EO60 (MARSHALL SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 03/27/02

[PRD] DATABASE RECORD:	576237	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	04/06/04
		INITIAL DATE:	
ITEM NUMBER:	Y22T	DATE LAST CHANGED:	01/12/06
SECTION:	2750	TIME LAST CHANGED:	14:54:10

REQUESTER: NASA HQ
TEST CODE: CORE FULL-TIME
TRACKING NO. S04-04-1

1. DESCRIPTION: 1 S/G 1

RESPONSIBLE AGENCY: JSC

REF	CAP	TERINATION LOCATION	NOTE
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Y1	M	EXTEND TO GSFC	

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/07/04

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

CONTINUED

[PRD] DATABASE RECORD: 576237
ITEM NUMBER: Y22T

[PRD] DATABASE RECORD: 576238 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 04/06/04
INITIAL DATE:
ITEM NUMBER: Y22.1G DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 14:54:31

REQUESTER: NASA HQ
TEST CODE: CORE FULL-TIME
TRACKING NO. S04-04-1

1. DESCRIPTION: 1 S/G 1

RESPONSIBLE AGENCY: GSFC

REF	CAP	TERMINATION LOCATION	NOTE
Y1	M	EXTEND TO HQ	1

NOTE: Voice loop will be extended to the Action Center for the ISS staff.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/29/04

[PRD] DATABASE RECORD: 576239 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 04/06/04
INITIAL DATE:
ITEM NUMBER: Y23T DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 14:58:33

REQUESTER: NASA HQ
TEST CODE: CORE FULL-TIME
TRACKING NO. S04-04-1

1. DESCRIPTION: 1 S/G 2

RESPONSIBLE AGENCY: JSC

REF	CAP	TERMINATION LOCATION	NOTE
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CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

CONTINUED

[PRD] DATABASE RECORD: 576239
ITEM NUMBER: Y23T

Y1 M EXTEND TO GSFC

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/07/04

[PRD] DATABASE RECORD: 576240 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 04/06/04
INITIAL DATE:
ITEM NUMBER: Y23.1G DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 14:59:28

REQUESTER: NASA HQ
TEST CODE: CORE FULL-TIME
TRACKING NO. S04-04-1

1. DESCRIPTION: 1 S/G 2

RESPONSIBLE AGENCY: GSFC

REF	CAP	TERMINATION LOCATION	NOTE
Y1	M	EXTEND TO HQ	1

NOTE: Voice loop will be extended to the Action Center for the ISS staff.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/29/04

[PRD] DATABASE RECORD: 576241 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 04/06/04
INITIAL DATE:
ITEM NUMBER: Y24T DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 15:00:06

REQUESTER: NASA HQ

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

CONTINUED

[PRD] DATABASE RECORD: 576241
ITEM NUMBER: Y24T

TEST CODE: CORE FULL-TIME
TRACKING NO. S04-04-1

1. DESCRIPTION: TRANSLATE RUSSIAN TO ENGLISH

RESPONSIBLE AGENCY: JSC

REF	CAP	TERMINATION LOCATION	NOTE
Y1	M	EXTEND TO GSFC	

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/07/04

[PRD] DATABASE RECORD:	576242	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	04/06/04
ITEM NUMBER:	Y24.1G	INITIAL DATE:	
SECTION:	2750	DATE LAST CHANGED:	01/12/06
		TIME LAST CHANGED:	15:00:30

REQUESTER: NASA HQ
TEST CODE: CORE FULL-TIME
TRACKING NO. S04-04-1

1. DESCRIPTION: TRANSLATE RUSSIAN TO ENGLISH

RESPONSIBLE AGENCY: GSFC

REF	CAP	TERMINATION LOCATION	NOTE
Y1	M	EXTEND TO HQ	1

NOTE: Voice loop will be extended to the Action Center for the ISS staff.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/29/04

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

CONTINUED

[PRD] DATABASE RECORD: 576242
ITEM NUMBER: Y24.1G

[PRD] DATABASE RECORD: 576515 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 06/09/04
INITIAL DATE:
ITEM NUMBER: T25T DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 15:00:54

REQUESTER: JSC
TEST CODE: CORE FULL-TIME
TRACKING NO. S04-05-2 S04-05-2A S04-06-1 S04-06-1A

1. DESCRIPTION: IP/GC 1

RESPONSIBLE AGENCY: JSC

REF	CAP	TERMINATION LOCATION	NOTE
T1	T/M	EXTEND TO GSFC	1

NOTE: 1. GSFC will be configured in monitor mode until the ISS/GC request the loop to be in talk mode.

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 06/09/04

[PRD] DATABASE RECORD: 576516 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 06/09/04
INITIAL DATE:
ITEM NUMBER: T25.1G DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 15:07:43

REQUESTER: JSC
TEST CODE: CORE FULL-TIME
TRACKING NO. S04-05-2 S04-05-2A S04-06-1 S04-06-1A

1. DESCRIPTION: IP/GC 1

RESPONSIBLE AGENCY: GSFC

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

CONTINUED

[PRD] DATABASE RECORD: 576516
ITEM NUMBER: T25.1G

REF	CAP	TERMINATION LOCATION	NOTE
T1	T/M	EXTEND TO WSC	
T2	T/M	EXTEND TO WPS	
T3	T/M	EXTEND TO DFRC	

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/23/04

[PRD] DATABASE RECORD: 576535 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 06/09/04
INITIAL DATE:
ITEM NUMBER: T25.2X DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 15:08:07

REQUESTER: JSC
TEST CODE: CORE FULL-TIME
TRACKING NO. S04-05-2A S04-06-1A

1. DESCRIPTION: IP/GC 1

RESPONSIBLE AGENCY: DFRC

REF	CAP	TERMINATION LOCATION	NOTE
T1	T/M	EXTEND TO THE COMM AREA	

SUPPLIER: DFRC AGENCY: DFRC/OS (DRYDEN FLIGHT RESEARCH CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 06/09/04

[PRD] DATABASE RECORD: 578175 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 05/15/06
INITIAL DATE:
ITEM NUMBER: T26T DATE LAST CHANGED: 05/15/06
SECTION: 2750 TIME LAST CHANGED: 11:38:21

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

CONTINUED

[PRD] DATABASE RECORD: 578175
ITEM NUMBER: T26T

REQUESTER: JSC
TEST CODE: BCC ISS CORE
TRACKING NO. S04-11-1 S05-02-4 S06-02-1 S06-05-2 S06-05-2A

1. DESCRIPTION: BCC VOICE COMMUNICATIONS

NAME	CAP	FROM	TO	NOTE
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CAPCOM COORD 1	T/M	JSC	MSFC	
IP/GC 1	T/M	JSC	MSFC	
MOSCOW PATCH MH06	T/M	JSC	MSFC	
HOUSTON SUPPORT	T/M	JSC	MSFC	
SURGEON R/T	T/M	JSC	MSFC	
TRANS RUS/ENG	T/M	JSC	MSFC	
TRANS ENG/RUS	T/M	JSC	MSFC	
ISS SURGEON 1	T/M	JSC	MSFC	
ISS TLM COORD	T/M	JSC	MSFC	
ISS AFD 1	T/M	JSC	MSFC	
ISS OPS	T/M	JSC	MSFC	
1 S/G 1	T/M	JSC	MSFC	1
1 S/G 2	T/M	JSC	MSFC	1
ISS FD 1	T/M	JSC	MSFC	
PLAN/STOW COORD	T/M	JSC	MSFC	
S/T PLN COORD 1	T/M	JSC	MSFC	
ISS SYS COORD 1	T/M	JSC	MSFC	
ISS SYS COORD 2	T/M	JSC	MSFC	
ISS SYS COORD 4	T/M	JSC	MSFC	
R/T EXE COORD	T/M	JSC	MSFC	
ISS CMD COORD	T/M	JSC	MSFC	
FMT COORD 1	T/M	JSC	MSFC	
ISS MCC COORD 1	T/M	JSC	MSFC	

NOTE: 1. 1S/G 1 & 1S/G 2 from MCC-M to MSFC will be patched to JSC by MSFC on dedicated Long Haul Circuits and JSC will cross patch back into the MCC-M VMR Interface at JSC for uplink to the ISS.

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 578175
ITEM NUMBER: T26T

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)
RESPONDER: KEN JONES 281 483-7671

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 05/15/06

[PRD] DATABASE RECORD: 578176 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 05/12/06
INITIAL DATE: 10/07/04
ITEM NUMBER: T26.1H DATE LAST CHANGED: 05/12/06
SECTION: 2750 TIME LAST CHANGED: 16:02:14

REQUESTER: JSC
TEST CODE: BCC ISS CORE
TRACKING NO. S04-11-1 S05-02-4 S06-05-2

1. DESCRIPTION: BCC VOICE COMMUNICATION

NAME	CAP	FROM	TO	NOTE
----	---	----	--	----
CAPCOM COORD 1	T/M	MSFC	MCC-M	
IP/GC 1	T/M	MSFC	MCC-M	
MOSCOW PATCH MH06	T/M	MSFC	MCC-M	
HOUSTON SUPPORT	T/M	MSFC	MCC-M	
SURGEON R/T	T/M	MSFC	MCC-M	
TRANS RUS/ENG	T/M	MSFC	MCC-M	
TRANS ENG/RUS	T/M	MSFC	MCC-M	
ISS TLM COORD	T/M	MSFC	MCC-M	
ISS AFD 1	T/M	MSFC	MCC-M	
ISS OPS	T/M	MSFC	MCC-M	
1 S/G 1	T/M	MSFC	MCC-M	2
1 S/G 2	T/M	MSFC	MCC-M	2
RS ISS VHF 1	T/M	MSFC	MCC-M	1
RS ISS VHF 2	T/M	MSFC	MCC-M	1
ISS FD 1	T/M	MSFC	MCC-M	
PLAN/STOW COORD	T/M	MSFC	MCC-M	
S/T PLAN COORD 1	T/M	MSFC	MCC-M	
ISS SYS COORD 1	T/M	MSFC	MCC-M	
ISS SYS COORD 2	T/M	MSFC	MCC-M	

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

CONTINUED

[PRD] DATABASE RECORD: 578176
ITEM NUMBER: T26.1H

ISS SYS COORD 4	T/M	MSFC	MCC-M
RT EXE COORD	T/M	MSFC	MCC-M
ISS CMD COORD	T/M	MSFC	MCC-M
FMT COORD 1	T/M	MSFC	MCC-M
RS FD	T/M	MCC-M	MSFC

- NOTE: 1. VHF 1 & 2 circuits to be configured for T/M for BCC support only.
2. If a Hurricane is CAT 3 or greater, then MCC shuts down all equipment and there will no longer be an S-Band link.

SUPPLIER: MSFC AGENCY: MSFC/EO60 (MARSHALL SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: NOACK RESPONSE DATE: 05/12/06

[PRD] DATABASE RECORD:	580477	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	05/15/06
		INITIAL DATE:	02/18/05
ITEM NUMBER:	T26.2GH	DATE LAST CHANGED:	05/22/06
SECTION:	2750	TIME LAST CHANGED:	10:49:47

REQUESTER: JSC
TEST CODE: BCC ISS CORE
TRACKING NO. S05-02-2 S06-05-2A

1. DESCRIPTION: BCC VOICE COMMUNICATION

NAME	CAP	FROM	TO	NOTE
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HOUSTON SUPPORT	T/M	MSFC	GSFC	
TRANS RUS/ENG	T/M	MSFC	GSFC	
ISS OPS	T/M	MSFC	GSFC	
1 S/G 1	T/M	MSFC	GSFC	1,3
1 S/G 2	T/M	MSFC	GSFC	1,3
RS ISS VHF 1	T/M	MSFC	GSFC	2
RS ISS VHF 2	T/M	MSFC	GSFC	2
FMT COORD 1	T/M	MSFC	GSFC	
ISS CMD COORD	T/M	MSFC	GSFC	

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

CONTINUED

[PRD] DATABASE RECORD: 580477
ITEM NUMBER: T26.2GH

ISS TLM COORD	T/M	MSFC	GSFC
ISS MCC COORD 1	T/M	MSFC	GSFC
IP/GC 1 MH3	T/M	MSFC	GSFC
MDM ORDERWIRE	T/M	GSFC	MSFC
NISN COMM COORD	T/M	GSFC	MSFC
ISS TN COORD 1	T/M	GSFC	MSFC
WSC P/B COORD	T/M	GSFC	MSFC
ISS SITE COORD	T/M	GSFC	MSFC

- NOTE: 1. S/G 1 & 2 will be configured in talk mode for checkouts.
After the checkouts the circuits will be in monitor mode.
2. VHF 1 and 2 circuits to be configured for T/M for BCC
Support only. GSFC will configure WSC, DFRC, or WLPS when
required.
3. Until S-Band Communications are terminated if JSC must
shutdown the forward link.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS/ 301 805-3459

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 05/19/06
RESPONSE TRACKING: GSFC 016 GSFC080

SUPPLIER: MSFC AGENCY: MSFC/EO60 (MARSHALL SPACE FLIGHT CENTER)
RESPONDER: MIKE BLUM

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 05/15/06

[PRD] DATABASE RECORD: 580481 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 06/27/06
INITIAL DATE: 02/18/05
ITEM NUMBER: HT27HT DATE LAST CHANGED: 07/03/06
SECTION: 2750 TIME LAST CHANGED: 11:27:42

REQUESTER: MSFC JSC
TEST CODE: CORE ESA
TRACKING NO. S05-02-2 S05-08-1 S05-09-1 S05-12-1 S06-01-3
S06-06-3

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

CONTINUED

[PRD] DATABASE RECORD: 580481
ITEM NUMBER: HT27HT

1. DESCRIPTION: ESA VOICE CONFIGURATION (ON ESA GATEWAY)

REAL-TIME AND SIMULATED SHUTTLE ASCENTS TAL SUPPORT ONLY

1 A/G 1	M	JSC	ESA	1, 13
1 A/G 2	M	JSC	ESA	1, 13
FD 1	M	JSC	ESA	1, 13
LANDING F/PRIME 1	M	JSC	ESA	1, 13
MED OPS 1	T/M	JSC	ESA	1, 13
SURGEON 1	T/M	JSC	ESA	1, 13

ALL CIRCUITS WILL BE CONFIGURED AS REQUIRED.

REF: FLT-I SECTION 2750 ITEM T178T DBR 584298

REAL-TIME SUPPORT FROM JSC TO ESA

LOOP	CAT	FROM	TO	NOTE
1 A/G 1	M	JSC	ESA	(1,2,3,4,5,8,9,10,11)
1 A/G 1	T/M	JSC	ESA	13
1 A/G 2	M	JSC	ESA	(1,2,3,4,5,8,9,10,11)
1 A/G 2	T/M	JSC	ESA	13
1 S/G 1	T/M	JSC	ESA	12,13
" " "	M	JSC	ESA	(1,2,3,4,5,8,9,10,11)
1 S/G 2	T/M	JSC	ESA	12,13
" " "	M	JSC	ESA	(1,2,3,4,5,8,9,10,11)
CAPCOM COORD 1	T/M	JSC	ESA	1,13 for ISS INC 13 & 14
CATO 1	T/M	JSC	ESA	13
CIO IP COORD	T/M	JSC	ESA	13
EPO COORD 1	T/M	JSC	ESA	13
FCR SYS 1	M	JSC	ESA	1,13 for ISS INC 13 & 14
FD 1	M	JSC	ESA	13
FD ISS/COL COORD	T/M	JSC	ESA	13
FMT COORD 1	T/M	JSC	ESA	13
HLS CONF 1	T/M	JSC	ESA	13, 3
HLS PLANNING 1	T/M	JSC	ESA	13, 3
HOUSTON SUPPORT	T/M	JSC	ESA	12,13
IMC COORD 1	T/M	JSC	ESA	13

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
PROGRAM REQUIREMENTS DOCUMENT/PROGRAM SUPPORT PLAN/
OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

CONTINUED

[PRD] DATABASE RECORD: 580481
ITEM NUMBER: HT27HT

IP CONF 1	T/M	JSC	ESA 12,13
IP/GC 1	T/M	JSC	ESA 12,13,1,2,3,4,5,6,7,8,9,10,11
IP STOWAGE 1	T/M	JSC	ESA 13
ISS AFD 1	M	JSC	ESA (1,2,3,4,5,6,7,8,9,10,11)
ISS AFD 1	T/M	JSC	ESA 12,13
ISS BIOMED 1	T/M	JSC	ESA 1 for ISS INC 13 & 14
ISS CAPCOM 1	T/M	JSC	ESA 1,13
ISS FD 1	T/M	JSC	ESA 12,13
" " "	M	JSC	ESA (1,2,3,4,5,6,7,8,9,10,11)
ISS IST	T/M	JSC	ESA 12,13
ISS MED OPS 1	T/M	JSC	ESA 1, 13
ISS MER 1	T/M	JSC	ESA 13
ISS MER PROB	T/M	JSC	ESA 13
ISS OPS	T/M	JSC	ESA 12,13
" "	M	JSC	ESA (1,2,3,4,5,6,7,8,9,10,11)
SPAN MANAGER 1	T/M	JSC	ESA 13
ISS SURGEON 1	T/M	JSC	ESA 13,1,2
ISS SYS COORD 1	T/M	JSC	ESA 12,13
ISS SYS COORD 2	T/M	JSC	ESA 12,13
ISS SYS COORD 3	T/M	JSC	ESA 12,13
ISS SYS COORD 4	T/M	JSC	ESA 12,13
ISS SYS COORD 5	T/M	JSC	ESA 12,13
ISS TLM COORD	T/M	JSC	ESA 12,13
ISS TRAINING COORD	T/M	JSC	ESA 13
MOSCOW PATCH MH06	T/M	JSC	ESA 12,13
MOSCOW PATCH MH38	T/M	JSC	ESA 12,13
MOSCOW PATCH MH42	T/M	JSC	ESA 12,13
MOSCOW PATCH MH46	T/M	JSC	ESA 12,13
MOSCOW PATCH MH47	T/M	JSC	ESA 12,13
MOSCOW SUPPORT MH07	T/M	JSC	ESA 12,13
NASA TV LOCAL	M	JSC	ESA 1,2,3,4,6,7,8,13 for
" " "			ISS INC 13 &14
OCA BFCR	T/M	JSC	ESA 13
OCA RFCR	T/M	JSC	ESA 13
OPS ACTION 1	T/M	JSC	ESA 13
OPS PLAN 1	T/M	JSC	ESA 1,2,3,4,5,6,7,8,9,10,11
ORT COORD	T/M	JSC	ESA 13
PHALCON COORD 1	T/M	JSC	ESA 13
PLAN/STOW COORD	T/M	JSC	ESA 12,13

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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[PRD] DATABASE RECORD: 580481
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RS ISS VHF 1	M	JSC	ESA (1,2,3,4,5,6,7,8,9,10,11)
" " " "	T/M	JSC	ESA 12,13
RS ISS VHF 2	T/M	JSC	ESA 12,13,OR 13,14
" " " "	M	JSC	ESA (1,2,3,4,5,6,7,8,9,10,11)
S/T PLAN COORD 1	T/M	JSC	ESA 1,2,12,13
SURGEON R/T	T/M	JSC	ESA 1,2,13
SVT COORD 1	T/M	JSC	ESA 13 and others as required
SVT COORD 2	T/M	JSC	ESA 13 and others as required
SVT COORD 3	T/M	JSC	ESA 13 and others as required
THOR CALL 1	T/M	JSC	ESA 13
TRANS ENG/RUS	M	JSC	ESA (3,12,13)
TRANS RUS/ENG	M	JSC	ESA (12,13)
" " "	M	JSC	ESA (1,2,3,4,5,6,7,8,9,10,11)

REAL-TIME SUPPORT FROM ESA COL-CC TO JSC

COL-FD 1	T/M	ESA	JSC	FOR DISTRIBUTION
COL-OC 1	T/M	ESA	JSC	FOR DISTRIBUTION
N-USOC OPS 1	T/M	ESA	JSC	FOR DISTRIBUTION
ESA COORD	T/M	ESA	JSC	FOR DISTRIBUTION
ESA OPS	T/M	ESA	JSC	FOR DISTRIBUTION
PFS OPS	T/M	ESA	JSC	FOR DISTRIBUTION

REAL-TIME SUPPORT FROM MSFC/JSC TO ESA

1 SCI 1	T/M	MSFC/JSC	ESA	1,2,3,4,5,8,9,10,11
1 SCI 2	T/M	MSFC/JSC	ESA	1,2,3,4,5,8,9,10,11
1 SCI 3	T/M	MSFC/JSC	ESA	1,2,3,4,5,8,9,10,11
1 SCI 4	T/M	MSFC/JSC	ESA	1,2,3,4,5,8,9,10,11
1 SCI 5	T/M	MSFC/JSC	ESA	1,2,3,4,5,8,9,10,11
DMC 1	T/M	MSFC/JSC	ESA	1
" "	M	MSFC/JSC	ESA	(2,3,4,5,8,9,10,11)
IP/PLAN 1	T/M	MSFC/JSC	ESA	1
LIS COORD 1	T/M	MSFC/JSC	ESA	1,2,3,4,5,6,7,8,9,10,11
OC 1	T/M	MSFC/JSC	ESA	1,2
" "	M	MSFC/JSC	ESA	(3,4,5,6,7,8,9,10,11)

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[PRD] DATABASE RECORD: 580481
ITEM NUMBER: HT27HT

PLANING COORD 1	T/M	MSFC/JSC	ESA	1,2,4
" " "	M	MSFC/JSC	ESA	(3,5,6,7,8,9,10,11)
POD 1	T/M	MSFC/JSC	ESA	1,2,4
" " "	M	MSFC/JSC	ESA	(3,5,6,7,8,9,10,11)
POIC STOWAGE 1	T/M	MSFC/JSC	ESA	3,4,
PRO 1	T/M	MSFC/JSC	ESA	1
" " "	M	MSFC/JSC	ESA	(2,3,4,5,6,7,8,9,10,11)
RPI OPS 1	T/M	MSFC/JSC	ESA	1,2,3,4,5,6,7,8,9,10,11
SOC 1	T/M	MSFC/JSC	ESA	1,2
" " "	M	MSFC/JSC	ESA	(3,4,5,6,7,8,9,10,11)

SIMULATION SUPPORT FROM JSC TO ESA

2 S/G 1	T/M	JSC	ESA	12,13
" " "	M	JSC	ESA	(1,2,3,4,5,8,9,10,11)
2 S/G 2	T/M	JSC	ESA	12,13
CATO 2	T/M	JSC	ESA	13
" " "	M	JSC	ESA	(1,2,3,4,5,8,9,10,11)
EPO COORD 2	T/M	JSC	ESA	13
FCR SYS 2	M	JSC	ESA	1,13 for ISS INC 13 & 14
FMT COORD 2	T/M	JSC	ESA	13
HLS CONF 2	T/M	JSC	ESA	3, 13
HLS PLANNING 2	T/M	JSC	ESA	3, 13
IMC COORD 2	T/M	JSC	ESA	13
IP CONF 2	T/M	JSC	ESA	13
IP/GC 2	T/M	JSC	ESA	12,13,14
IP/GC TEST	T/M	JSC	ESA	12,13
IP STOWAGE 2	T/M	JSC	ESA	13
ISS AFD 2	M	JSC	ESA	(1,2,3,4,5,6,7,8,9,10,11)
ISS AFD 2	T/M	JSC	ESA	13
ISS BIOMED 2	T/M	JSC	ESA	1 for ISS INC 13 & 14
ISS IST TEST	T/M	JSC	ESA	12,13
ISS FD 2	M	JSC	ESA	(1,2,3,4,5,6,7,8,9,10,11)
ISS FD 2	T/M	JSC	ESA	13
ISS MED OPS 2	T/M	JSC	ESA	1,12
ISS MER 2	T/M	JSC	ESA	13
ISS SIM COORD 1	T/M	JSC	ESA	12,13
ISS SIM COORD 2	T/M	JSC	ESA	12,13

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ISS SURGEON 2	T/M	JSC	ESA	1,2,13
ISS TRAINING COORD	T/M	JSC	ESA	12,13
OPS ACTION 2	T/M	JSC	ESA	13
PHALCON COORD 2	T/M	JSC	ESA	13
S/T PLAN COORD 2	T/M	JSC	ESA	2,12
S/T PLAN COORD 2	M	JSC	ESA	(3,4,5,6,7,8,9,10,11)
SIM HOUSTON SUPT	T/M	JSC	ESA	12,13
SIM IP CONF	T/M	JSC	ESA	13
SIM ISS OPS	T/M	JSC	ESA	13
SIM ISS OPS	M	JSC	ESA	(1,2,3,4,5,6,7,8,9,10,11)
SIM ISS SYS COORD1	T/M	JSC	ESA	13
SIM ISS SYS COORD3	T/M	JSC	ESA	13
SIM RS ISS VHF 1	T/M	JSC	ESA	13
SIM RS ISS VHF 1	M	JSC	ESA	(1,2,3,4,5,6,7,8,9,10,11)
SIM RS ISS VHF 2	T/M	JSC	ESA	13
SIM RS ISS VHF 2	M	JSC	ESA	(1,2,3,4,5,6,7,8,9,10,11)
SURGEON SIM	T/M	JSC	ESA	13
THOR CALL 2	T/M	JSC	ESA	13
TSC SIM S/G 1	T/M	JSC	ESA	13 and others as required
TSC SIM S/G 2	T/M	JSC	ESA	13 and others as required
TSC SIM FD	T/M	JSC	ESA	13 and others as required

SIMULATION SUPPORT FROM ESA COL-CC TO JSC

COL FD 2	T/M	ESA	JSC	FOR DISTRIBUTION
COL OC 2	T/M	ESA	JSC	FOR DISTRIBUTION

SIMULATION SUPPORT FROM MSFC/JSC TO ESA

2 SCI 1	T/M	MSFC/JSC	ESA	1,2,3,4,5,8,9,10,11
2 SCI 2	T/M	MSFC/JSC	ESA	1,2,3,4,5,8,9,10,11
2 SCI 3	T/M	MSFC/JSC	ESA	1,2,3,4,5,8,9,10,11
2 SCI 4	T/M	MSFC/JSC	ESA	1,2,3,4,5,8,9,10,11
2 SCI 5	T/M	MSFC/JSC	ESA	1,2,3,4,5,8,9,10,11
DMC 2	T/M	MSFC/JSC	ESA	1
" "	M	MSFC/JSC	ESA	(2,3,4,5,8,9,10,11)

CLASSIFICATION UNCLASSIFIED

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IP/PLAN 2	T/M	MSFC/JSC	ESA	1
LIS COORD 2	T/M	MSFC/JSC	ESA	1,2,3,4,5,6,7,8,9,10,11
OC 2	T/M	MSFC/JSC	ESA	1,2
" "	M	MSFC/JSC	ESA	(3,4,5,6,7,8,9,10,11)
PLANING COORD 2	T/M	MSFC/JSC	ESA	1,2,3,4,5,6,7,8,9,10,11
POD 2	T/M	MSFC/JSC	ESA	1,2,4
" "	M	MSFC/JSC	ESA	(3,5,6,7,8,9,10,11)
POIC STOWAGE 2	T/M	MSFC/JSC	ESA	1,3,4
PRO 2	T/M	MSFC/JSC	ESA	1
" " "	M	MSFC/JSC	ESA	(2,3,4,5,6,7,8,9,10,11)
RPI OPS 2	T/M	MSFC/JSC	ESA	1,2,3,4,5,6,7,8,9,10,11
SOC 2	T/M	MSFC/JSC	ESA	1
" "	M	MSFC/JSC	ESA	(2,3,4,5,6,7,8,9,10,11)

- NOTE: 1. European Astronaut Centre (EAC), Cologne, Germany
2. ESA Technology and Research Centre (ESTEC)/ESA User Centre at ESTEC (ERASUMUS), Noordwijk, Netherlands.
3. Danish Aerospace Medical Centre of Research (DAMEC) Odense, Denmark.
4. Norwegian-User Support and Operations Centre Plantebiosenteret (N-USOC), Trondheim, Norway.
5. Belgium-User Support and Operations Centre (B-USOC), Brussels, Belgium.
6. Centre d'Aide au Developement de la Microgravit's et aus Operations Spatiales (CADMOS) Toulouse, France.
7. Microgravity User Support Centre (MUSC) Cologne, Germany.
8. Biotechnology Space Support Centre (BIOTES C) Zurich, Switzerland.
9. Instituto Universitario de Microgravedad de la Universidad Politecnica de Madrid (IDR UPM),Madrid, Spain.
10. Bremen Experiment Operations System (BEOS) Bremen, Germany.
11. ASI Logistics and Technolog Engineering Centre (ALTEC) Torino, Italy.
12. Extend to ATV-CC
13. Extend to COL-CC
14. Extend to MCC-M

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[PRD] DATABASE RECORD: 580481
ITEM NUMBER: HT27HT

SUPPLIER: MSFC AGENCY: MSFC/EO60 (MARSHALL SPACE FLIGHT CENTER)
RESPONDER: MICHAEL BLUM/MSFC 256 544-5102

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 06/28/06

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)
RESPONDER: KEN JONES/JSC 281 483-7671

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 06/27/06

[PRD] DATABASE RECORD: 580482 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 01/11/06
INITIAL DATE: 02/18/05
ITEM NUMBER: T28GT DATE LAST CHANGED: 08/09/06
SECTION: 2750 TIME LAST CHANGED: 12:35:15

REQUESTER: JSC
SUBREQUESTER: JSC/DM
TEST CODE: CORE FULL-TIME
TRACKING NO. S05-02-5 S06-01-1

1. DESCRIPTION: NORAD COORD

RESPONSIBLE AGENCY: JSC

REF	CAP	NOTE	TERMINATION LOCATION
T1	T/M		ISS/MCC Distribution
T2	T/M	1	Extend to Cheyenne Mountain via JPL

NOTE: 1. This circuit is shared with Shuttle.

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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OPERATIONS REQUIREMENT/OPERATIONS DIRECTIVE (PRD/PSP/OR/OD)
PROGRAM NUMBER: 30000

SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 580482
ITEM NUMBER: T28GT

REF: ITEM T26.1GT SECTION FLT 2750 DBR 289250

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS 301 805-3459

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 08/08/06
RESPONSE TRACKING: ZGRAM0086

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)
RESPONDER: KEN JONES

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 01/11/06

[PRD] DATABASE RECORD: 580483 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/18/05
INITIAL DATE: 02/18/05
ITEM NUMBER: T28.1E DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 15:09:11

REQUESTER: JSC
SUBREQUESTER: JSC/DM
TEST CODE: CORE FULL-TIME
TRACKING NO. S05-02-4

1. DESCRIPTION: NORAD COORD

RESPONSIBLE AGENCY: 21 SOPS

REF	CAP	NOTE	TERMINATION LOCATION
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T1	T/M	1	HQ, USSTRATCOM, CMAFS, ROOM 2308

NOTE: 1 Space Control Center, Commander's console.

SUPPLIER: ER AGENCY: 1 ROPS/DOU (45TH SPACE WING)
RESPONDER: BART KLEINFELDT

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 05/23/05

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

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[PRD] DATABASE RECORD:	580484	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	02/18/05
		INITIAL DATE:	02/18/05
ITEM NUMBER:	T29G	DATE LAST CHANGED:	01/12/06
SECTION:	2750	TIME LAST CHANGED:	15:10:40
REQUESTER:	JSC		
SUBREQUESTER:	JSC/DM		
TEST CODE:	CORE	FULL-TIME	
TRACKING NO.	S05-02-4		

1. DESCRIPTION: NORAD ALTERNATE

RESPONSIBLE AGENCY: GSFC/NISN

REF	CAP	NOTE	TERMINATION LOCATION
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T1	T/M	1	Extend to JSC
T2	T/M	1	Extend to Space Control Center in Dahlgren, Va.

NOTE: 1 Circuit will have Type 1 E&M signaling.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/19/05

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[PRD] DATABASE RECORD:	580490	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	02/18/05
		INITIAL DATE:	02/18/05
ITEM NUMBER:	T30T	DATE LAST CHANGED:	01/12/06
SECTION:	2750	TIME LAST CHANGED:	15:11:01
REQUESTER:	JSC		
SUBREQUESTER:	JSC/ACR		
TEST CODE:	CORE	FULL-TIME	

1. DESCRIPTION: SELECTED S/G 1 INHIBIT AUDIO

RESPONSIBLE AGENCY: JSC

REF:	CAP	TERMINATION LOCATION	NOTE
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T1.	M	EXTEND TO JSC BLDG. 2S ROOM 210	

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[PRD] DATABASE RECORD: 580490
ITEM NUMBER: T30T

T2. M EXTEND TO KSC/CDSC

TECHICAL CONTACT: JSC/AP131/JIMMS/ELIZABETH WEISSINGER/281 483-8680
KSC/SCOTT CANFIELD/321 867-7814

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/18/05

[PRD] DATABASE RECORD: 580486 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/18/05
INITIAL DATE: 02/18/05
ITEM NUMBER: T30.1K DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 15:11:22

REQUESTER: JSC
SUBREQUESTER: JSC/ACR
TEST CODE: CORE FULL-TIME

1. DESCRIPTION: SELECTED S/G 1 INHIBIT AUDIO
RESPONSIBLE AGENCY: KSC/CDSC

REF:	CAP	TERMINATION LOCATION	NOTE
T1.	M	EXTEND TO KSC PRESS SITE	

TECHNICAL CONTACT: JSC/AP131/JIMMS/ELIZABETH WEISSINGER/281 483-8680
KSC/SCOTT CANFIELD/321 867-7814

SUPPLIER: KSC AGENCY: KSC/PH-B (KENNEDY SPACE CENTER)
RESPONDER: ROD THORNTON KSC-105

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/19/05

[PRD] DATABASE RECORD: 580487 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/18/05
INITIAL DATE: 02/18/05
ITEM NUMBER: T31T DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 15:16:11

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[PRD] DATABASE RECORD: 580487
ITEM NUMBER: T31T

REQUESTER: JSC
SUBREQUESTER: JSC/ACR
TEST CODE: CORE FULL-TIME

1. DESCRIPTION: SELECTED S/G 2 INHIBIT AUDIO

RESPONSIBLE AGENCY: JSC

REF:	CAP	TERMINATION LOCATION	NOTE
T1.	M	EXTEND TO JSC BLDG. 2S ROOM 210	
T2.	M	EXTEND TO KSC/CDSC	

TECHICAL CONTACT: JSC/AP131/JIMMS/ELIZABETH WEISSINGER/281 483-8680
KSC/SCOTT CANFIELD/321 867-7814

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/18/05

[PRD] DATABASE RECORD: 580489 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/18/05
INITIAL DATE: 02/18/05
ITEM NUMBER: T31.1K DATE LAST CHANGED: 01/12/06
SECTION: 2750 TIME LAST CHANGED: 15:16:40

REQUESTER: JSC
SUBREQUESTER: JSC/ACR
TEST CODE: CORE FULL-TIME

1. DESCRIPTION: SELECTED S/G 2 INHIBIT AUDIO

RESPONSIBLE AGENCY: KSC/CDSC

REF:	CAP	TERMINATION LOCATION	NOTE
T1	M	EXTEND TO KSC PRESS SITE	

TECHNICAL CONTACT: JSC/AP131/JIMMS/ELIZABETH WEISSIONGER/281 483-8680
KSC/SCOTT CANFIELD/321 867-7814

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[PRD] DATABASE RECORD: 580489
ITEM NUMBER: T31.1K

SUPPLIER: KSC AGENCY: KSC/PH-B (KENNEDY SPACE CENTER)
RESPONDER: ROD THORNTON KSC-105

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/19/05

[PRD] DATABASE RECORD: 581537 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 08/22/06
INITIAL DATE: 04/06/05
ITEM NUMBER: T32T DATE LAST CHANGED: 08/22/06
SECTION: 2750 TIME LAST CHANGED: 15:14:22

REQUESTER: JSC
SUBREQUESTER: JAXA
TEST CODE: CORE
TRACKING NO. S05-04-1 S05-06-1 S06-06-1 S06-08-2

1. DESCRIPTION: JAXA VOICE CONFIGURATION (ON JAXA GATEWAY)
RESPONSIBLE AGENCY: JSC/JAXA

REAL-TIME SUPPORT FROM JSC TO JAXA

LOOP	CAP	FROM	TO	NOTE
1A/G 1	M	JSC	JAXA/SSIPC	1
1A/G 2	M	JSC	JAXA/SSIPC	1
1S/G 1(MH19)	M	JSC	JAXA/SSIPC	
1S/G 2(MH20)	M	JSC	JAXA/SSIPC	
ACO 1	M	JSC	JAXA/SSIPC	1
EVA	M	JSC	JAXA/SSIPC	1
FD 1	M	JSC	JAXA/SSIPC	1
FMT COORD 1	M	JSC	JAXA/SSIPC	
IMC COORD 1	M	JSC	JAXA/SSIPC	
IP/GC 1	T/M	JSC	JAXA/SSIPC	
ISS FD 1	M	JSC	JAXA/SSIPC	
ISS MER 1	M	JSC	JAXA/SSIPC	
ISS OPS	M	JSC	JAXA/SSIPC	
OPS PLAN 1	M	JSC	JAXA/SSIPC	
OSO MSPR 1	M	JSC	JAXA/SSIPC	

CLASSIFICATION UNCLASSIFIED

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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SECTION 2750 - VOICE TERMINATIONS

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 581537
ITEM NUMBER: T32T

OSO 1	M	JSC	JAXA/SSIPC
ROBO 1	M	JSC	JAXA/SSIPC
ROBO COORD1	M	JSC	JAXA/SSIPC
RINT 1	M	JSC	JAXA/SSIPC
RMS COORD 1	M	JSC	JAXA/SSIPC
ISS MER PROB	M	JSC	JAXA SSIPC

REAL-TIME SUPPORT FROM JAXA TO JSC

JAXA COMM

COORD	T/M	JAXA/SSIPC	JSC
TSG1	T/M	JAXA/SSIPC	JSC

SIMULATION SUPPORT FROM JSC TO JAXA

2S/G 1(MH35)	M	JSC	JAXA/SSIPC
2S/G 2(MH36)	M	JSC	JAXA/SSIPC
EPO COORD 2	T/M	JSC	JAXA/SSIPC
EVA	M	JSC	JAXA/SSIPC
FMT COORD 2	M	JSC	JAXA/SSIPC
IMC COORD 2	M	JSC	JAXA/SSIPC
IP/GC 2	T/M	JSC	JAXA/SSIPC
ISS AFD 2	T/M	JSC	JAXA/SSIPC
ISS CAPCOM 2	T/M	JSC	JAXA SSIPC
ISS FD 2	M	JSC	JAXA/SSIPC
ISS SIM COORD2	T/M	JSC	JAXA/SSIPC
ISS TRAINING			
COORD	T/M	JSC	JAXA/SSIPC
ISS MER 2	M	JSC	JAXA/SSIPC
OPS PLAN 2	M	JSC	JAXA/SSIPC
OSO 2	M	JSC	JAXA/SSIPC
OSO MSPR 2	M	JSC	JAXA/SSIPC
PHALCON COORD2	T/M	JSC	JAXA/SSIPC
RINT 2	M	JSC	JAXA/SSIPC
ROBO 2	M	JSC	JAXA/SSIPC
RMS COORD 2	M	JSC	JAXA/SSIPC
ROBO COORD2	M	JSC	JAXA/SSIPC
SIM ISS OPS	M	JSC	JAXA/SSIPC
SIM IP CONF	T/M	JSC	JAXA/SSIPC

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[PRD] DATABASE RECORD: 581537
ITEM NUMBER: T32T

SIM ISS SYS			
COORD 1	T/M	JSC	JAXA/SSIPC
SIM ISS SYS			
COORD 3	T/M	JSC	JAXA/SSIPC
SIM ISS SYS			
COORD 4	T/M	JSC	JAXA/SSIPC
S/T PLAN			
COORD 2	T/M	JSC	JAXA/SSIPC
THOR CALL 2	T/M	JSC	JAXA/SSIPC

SIMULATION SUPPORT FROM JAXA TO JSC

JAXA COMM			
COORD	T/M	JAXA/SSIPC	JSC
JFD 2	T/M	JAXA/SSIPC	JSC
TSG 2	T/M	JAXA/SSIPC	JSC

NOTE: 1. Used for both Simulations and Flight.

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 08/22/06

[PRD] DATABASE RECORD:	587137	REQUIREMENT STATUS:	APPROVED
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	08/18/06
		INITIAL DATE:	05/17/06
ITEM NUMBER:	T33GHT	DATE LAST CHANGED:	08/23/06
SECTION:	2750	TIME LAST CHANGED:	09:17:28

REQUESTER: JSC
TEST CODE: CORE LSOS
TRACKING NO. S06-06-2 S06-08-1

1. DESCRIPTION: LSOS VOICE CONFIGURATION

CONFIGURATION BETWEEN JSC AND GSFC:

CLASSIFICATION UNCLASSIFIED

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[PRD] DATABASE RECORD: 587137
ITEM NUMBER: T33GHT

NAME:	CAP:	NOTE	TERMINATION LOCATION
GC/NOM SHOTIME	T/M		GSFC NIC
GSFC COMM MGR/MDM COORD	T/M		GSFC
ISS TN COORD 1	T/M		GSFC
ISS SITE COORD	T/M		GSFC
NISN COMM COORD	T/M		GSFC NIC
NORAD COORD	T/M		CHEYENNE MOUNTAIN, CO
NORAD ALTERNATE	T/M		DAHLGREN, VA
PRIVATE PHONE PATCH	T/M		GODDARD VOICE
RS ISS VHF 1	T/M	2	GSFC
RS ISS VHF 1	M		GSFC NIC
RS ISS VHF 2	T/M		GSFC
RS ISS VHF 2	M	1	GSFC NIC

- NOTE 1. Downlink receive capability on SOYUZ VHF 2. The uplink capability on VHF 2 is for emergency only and at the direction of the ISS FD.
2. During the loss of TDRSS FWD/RTN link and during scheduled VHF 1 support, MSFC has a requirement to uplink on VHF 1 at ISS FD direction, but is kept in monitor till directed.

CONFIGURATION BETWEEN JSC AND MSFC:

NAME:	CAP:	TERMINATION LOCATION
1S/G 1 (MH19) PTT	T/M	PAYCOM
1S/G 2 (MH20) PTT	T/M	PAYCOM
CATO 1	T/M	
FCR SYS 1	T/M	
FD/POD COORD 1	T/M	ISS FD & MSFC POD ONLY
FMT COORD 1 (MH43)	T/M	
HOSC ORDERWIRE	T/M	
IP/GC 1 (MHO3)	T/M	
ISS AFD 1 (MH17)	T/M	POC & OC ONLY
ISS FLT DIR 1 (MH22)	T/M	TALK FOF POD ONLY

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[PRD] DATABASE RECORD: 587137
ITEM NUMBER: T33GHT

ISS MCC COORD 1	T/M	IST USE ONLY
ODIN 1	T/M	
OPS PLAN 1 (MH41)	T/M	
PAYCAP 1	T/M	SSCC POIC PAYCOM
POD 1	T/M	SSCC
TRANS RUS/ENG (MH12)	M	

CONFIGURATION BETWEEN JSC AND CSA:

NAME:	CAP:	TERMINATION LOCATION
1S/G 1 (MH19)	M	
1S/G 2 (MH20)	M	
IP/GC 1	T/M	GSS
ISS AFD 1 (MH17)	T/M	RMPSR
ISS FLT DIR 1 (MH22)	T/M	RMPSR
ROBO 1	T/M	RMPSR
ROBO COORD 1	T/M	RMPSR & OEC
ROBO SYS1	T/M	RMPSR & OEC

CONFIGURATION BETWEEN JSC/MCC-H AND RSA/MCC-M:

NAME:	CAP:	TERMINATION LOCATION
1S/G 1 (MH19) PTT	T/M	
1S/G 2 (MH20) PTT	T/M	
CAPCOM COORD 1 (MH02)	T/M	
HOUSTON SUPPORT (MH08)	T/M	
IP/GC 1 (MH03)	T/M	
ISS AFD 1 (MH17)	T/M	
ISS CMD COORD (MH40)	T/M	
ISS FLT DIR 1 (MH22)	T/M	
ISS IST (MH33)	T/M	
ISS OPS (MH18)	T/M	

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[PRD] DATABASE RECORD: 587137
ITEM NUMBER: T33GHT

ISS SYS COORD 1 (MH27)	T/M
ISS TLM COORD (MH16)	T/M
RS ISS VHF 1 (MH21)	T/M
RS ISS VHF 2 (MH24)	T/M
S/T PLAN COORD 1(MH26)	T/M
TRANS ENG/RUS (MH01)	T/M
TRANS RUS/ENG (MH12)	T/M

CONFIGURATION BETWEEN GSFC AND MSFC,WLP,DFRC,WSSH,HQ:

NAME:	CAPE	NOTE	TERMINATION LOCATION
GC/NOM SHOTIME	T/M		WSC
GSFC COMM MGR/MDM COORD	T/M		MSFC, WSC
ISS TN COORD 1	T/M		WSC, MSFC, JSC
ISS SITE COORD	T/M		MSFC IST,WLP,DFRC,WSSH
NISN COMM COORD	T/M		MSFC, JSC
RS ISS VHF 1 (MH21)	T/M		WLP, DFRC, WSSH
RS ISS VHF 1 (MH21)	M	2	MSFC, HQ
RS ISS VHF 2 (MH24)	T/M	1	WLP, DFRC, WSSH,
RS ISS VHF 2 (MH24)	M		MSFC, HQ

- NOTE 1. Downlink receive capability on SOYUZ VHF 2. The uplink capability on VHF 2 is for emergency only and at the direction of the ISS FD.
2. During the loss of TDRSS FWD/RTN link and during scheduled VHF 1 support, MSFC has a requirement to uplink on VHF 1 at ISS FD direction, but is kept in monitor till directed.

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS 301 805-3459

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 08/22/06

SUPPLIER: MSFC AGENCY: MSFC/EO60 (MARSHALL SPACE FLIGHT CENTER)

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[PRD] DATABASE RECORD: 587137
ITEM NUMBER: T33GHT

RESPONDER: MIKE BLUM 254 544-5102

SUPPLIER COMMITMENT: WILCO

RESPONSE DATE: 08/18/06

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)
RESPONDER: KEN JONES 281 483-7671

SUPPLIER COMMITMENT: WILCO

RESPONSE DATE: 08/18/06

[PRD] DATABASE RECORD: 588539 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 07/26/06
INITIAL DATE: 07/26/06
ITEM NUMBER: HT34HT DATE LAST CHANGED: 07/28/06
SECTION: 2750 TIME LAST CHANGED: 13:58:25

REQUESTER: MSFC JSC
TEST CODE: CORE ECLSS
TRACKING NO. S06-07-1

1. DESCRIPTION: REGEN-ECLSS CONFIGURATION

RESPONSIBLE AGENCY: JSC

REAL-TIME SUPPORT

NAME	CAP	FROM	TO	NOTE
1S/G 1	M	JSC	MSFC/HOSC	1
1S/G 2	M	JSC	MSFC/HOSC	1
ISS FD 1	M	JSC	MSFC/HOSC	1
ISS MER 1	T/M	JSC	MSFC/HOSC	1
ISS MER MGR 1	T/M	JSC	MSFC/HOSC	1
ISS MER PROB 1	T/M	JSC	MSFC/HOSC	1
ECLSS COORD	T/M	JSC	MSFC/HOSC	1

SIMULATION SUPPORT

CLASSIFICATION UNCLASSIFIED

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SECTION 2750 - VOICE TERMINATIONS

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[PRD] DATABASE RECORD: 588539
ITEM NUMBER: HT34HT

2S/G 1	M	JSC	MSFC/HOSC	1
2S/G 2	M	JSC	MSFC/HOSC	1
ISS FD 2	M	JSC	MSFC/HOSC	1
ISS MER 2	T/M	JSC	MSFC/HOSC	1
ISS MER MGR 2	T/M	JSC	MSFC/HOSC	1
ISS MER PROB 2	T/M	JSC	MSFC/HOSC	1

NOTE: 1. HOSC is to route the voice to ECLSS SUPPORT ROOM.

SUPPLIER: MSFC AGENCY: MSFC/EO60 (MARSHALL SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/28/06

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)
RESPONDER: KEN JONES 281 483-7671

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/27/06

CLASSIFICATION UNCLASSIFIED

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PROGRAM NUMBER: 30000

SECTION 2800 - VIDEO

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD:      533563      REQUIREMENT STATUS: APPROVED
DOCUMENT ID:                ISS VOL-I    APPROVAL DATE:          02/08/02
                                     INITIAL DATE:           08/23/96
ITEM NUMBER:                T1GT        DATE LAST CHANGED:     12/11/02
SECTION:                    2800        TIME LAST CHANGED:     15:45:48

REQUESTER:                  JSC
TEST CODE:                  FLT 1A
TRACKING NO.                S02-02-1    S609-1      S610-2      S804-1      S905-1
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1. DESCRIPTION: TELEVISION

The ISS operational television is multiplexed into the Ku-band aggregate return link and is transmitted to the SSCC as digital data. Up to four channels may be simultaneously transmitted. The SSCC will convert the digital data to standard National Television Standards Committee (NTSC) signals and corresponding analog voice. JSC will make these television and voice signal available at the JSC located NASA Operational WAN I/F for distribution.

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 03/14/02

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/08/02

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[PRD] DATABASE RECORD:      553803      REQUIREMENT STATUS: APPROVED
DOCUMENT ID:                ISS VOL-I    APPROVAL DATE:          02/15/05
                                     INITIAL DATE:           11/09/99
ITEM NUMBER:                TH2GHT      DATE LAST CHANGED:     05/24/06
SECTION:                    2800        TIME LAST CHANGED:     10:52:38

REQUESTER:                  JSC          MSFC
TEST CODE:                  CORE
TRACKING NO.                S008-1      S01-02-2    S02-02-1    S03-01-1    S05-02-4
                               S911-1
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1. DESCRIPTION: TELEVISION COMMUNICATIONS REQUIREMENTS

NISN is to provide two (2) video channels to the HOSC Annex, CSA Peering Point, GRC TSC, and to the RPI Peering Point. NISN is to encode NTSC video sourced from JSC Building 8, up to 6Mbps per channel. JSC ISD is responsible for delivering NTSC video from JSC Building 8

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SECTION 2800 - VIDEO

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[PRD] DATABASE RECORD: 553803
ITEM NUMBER: TH2GHT

to the JSC NISN PIP demarcation point. Service restoration for ISD resources is less than 8 hours on the weekdays and on-call on weekends. A NISN PIP service is required to the HOSC and GRC TSC. A NISN SIP service is required to the RPI Peering Point and CSA. CSA and the RPI sites are responsible for the delivery of encoded video from the Peering Point to their facilities. NISN will provide decoding equipment at the HOSC, GRC TSC, and CSA to deliver NTSC outputs. At the CSA location, two (2) decoders will be supplied, with a spare to be shipped by NISN in the event of failure. The RPI sites require the video to be delivered in IP format for viewing on a PC. The ISS Orbital PRD Volume II identifies the RPI sites authorized to receive ISS video.

REF: ISS-II SECTION 2800 ITEM H1GT DBR 545778

SUPPLIER: GSFC AGENCY: GSFC/451 (GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 04/06/05

SUPPLIER: MSFC AGENCY: MSFC/EO60 (MARSHALL SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/22/05

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/15/05

[PRD] DATABASE RECORD: 551507 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/15/05
INITIAL DATE: 05/05/99
ITEM NUMBER: T3GT DATE LAST CHANGED: 07/12/05
SECTION: 2800 TIME LAST CHANGED: 15:47:11

REQUESTER: JSC
TEST CODE: CORE
TRACKING NO. S02-02-1 S05-02-4 S905-1

1. DESCRIPTION: MCC-M TO MCC-H VIDEO

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SECTION 2800 - VIDEO

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 551507
ITEM NUMBER: T3GT

NISN shall provide one simplex broadcast quality TV circuit from MCC-M to MCC-H for simulation, Soyuz launch, and real-time support as scheduled.

SUPPLIER: GSFC AGENCY: GSFC/450.3 (G - GODDARD SPACE FLIGHT CENTER)
RESPONDER: ANTHONY WILLIAMS 301 805-3459

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 07/12/05
RESPONSE:

RESPONSE TRACKING: ZGRAM0047

SUPPLIER: JSC AGENCY: JSC/DV (JOHNSON SPACE CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 02/15/05

[PRD] DATABASE RECORD: 561705 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 02/11/02
INITIAL DATE: 02/11/02
ITEM NUMBER: T5G DATE LAST CHANGED: 07/03/02
SECTION: 2800 TIME LAST CHANGED: 08:10:59

REQUESTER: JSC
TEST CODE: CORE
TRACKING NO. S02-02-1

1. DESCRIPTION: LOW BANDWIDTH VIDEO BETWEEN MCC-M AND MCC-H

Use of the administrative video conferencing system will be scheduled to support Soyuz and Progress dockings, and other selected scheduled events.

NOTE: Use of this video is desirable but not critical to operations. Availability and reliability of this bandwidth is not guaranteed for

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SECTION 2800 - VIDEO

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 561705
ITEM NUMBER: T5G

mission operations because it is administrative bandwidth.

SUPPLIER: GSFC AGENCY: GSFC/450 (GODDARD SPACE FLIGHT CENTER)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 03/14/02

INTERNATIONAL SPACE STATION ORBITAL VOL-I
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PROGRAM NUMBER: 30000

[PRD] DATABASE RECORD: 557473		REQUIREMENT STATUS: APPROVED	
DOCUMENT ID:	ISS VOL-I	APPROVAL DATE:	10/30/00
		INITIAL DATE:	10/30/00
ITEM NUMBER:	T1D	DATE LAST CHANGED:	12/11/02
SECTION:	3410	TIME LAST CHANGED:	15:51:28
REQUESTER:	JSC		
SUBREQUESTER:	JSC/SD2		
TEST CODE:	CORE	ISS	LANDNG
TRACKING NO.	S010-2		

ISO3410.001 PAGE SEQUENCE NUMBER: 132 REF UDS NR 318
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SECTION 3410 - OTHER TECHNICAL SUPPORT - AIRCRAFT

PUBLICATION DATE: 05/31/96 REVISION: 0000 RUN DATE: 09/11/06

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[PRD] DATABASE RECORD: 557474
ITEM NUMBER: T2D

SECTION: 3410 TIME LAST CHANGED: 16:00:17

REQUESTER: JSC
SUBREQUESTER: JSC/SD2
TEST CODE: CORE ISS
TRACKING NO. S010-2

1. DESCRIPTION: MEDEVAC OF ASTRONAUTS IN TRAINING OR THEIR
FAMILIES

Provide secondary MEDEVAC services, as required, for U.S. Astronauts and their families following a contingency in Russia. A dedicated aircraft is not required for this service.

Following a contingency in Russia involving either U.S. Astronauts in training or their respective families, an agreement has been made with AEA-SOS Moscow to provide the primary MEDEVAC. In the event that this MEDEVAC capability is not available, a secondary source is required.

If needed, DOD MEDEVAC will transport the ill or injured persons to a hospital designated by the on-scene NASA/Contractor flight surgeon. MEDEVAC should include nurse(s) and medical technician(s) that normally accompany the DOD MEDEVAC aircraft. In the event that the mishap involves a U.S. Astronaut, the NASA/Contractor flight surgeon will accompany the Astronaut.

Coordination: JSC/SD2/Wyle/M. Chandler/281 212-1358

SUPPLIER: DDMS AGENCY: DDMS/X (DEPARTMENT OF DEFENSE)

SUPPLIER COMMITMENT: WILCO SEE RESPONSE RESPONSE DATE: 11/27/00
RESPONSE: NASA will be responsible for reimbursement of any and all MEDEVAC costs. DoD MEDEVAC will only be used when priority or urgent medical care is required, not routine medical care. DoD MEDEVAC will only be provided for U.S. citizens.

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SECTION 3410 - OTHER TECHNICAL SUPPORT - AIRCRAFT

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[PRD] DATABASE RECORD: 557474
ITEM NUMBER: T2D

[PRD] DATABASE RECORD: 557475 REQUIREMENT STATUS: APPROVED
DOCUMENT ID: ISS VOL-I APPROVAL DATE: 10/30/00
INITIAL DATE: 10/30/00
ITEM NUMBER: T3D DATE LAST CHANGED: 07/03/02
SECTION: 3410 TIME LAST CHANGED: 08:10:56

REQUESTER: JSC
SUBREQUESTER: JSC/SD2
TEST CODE: CORE ISS
TRACKING NO. S010-2

1. DESCRIPTION: COORDINATION OF CLEARANCE FOR SOS INTERNATIONAL
(MEDEVAC) TO LAND AT RAMSTEIN AB, GERMANY

Provide primary point-of-contact and coordination of DOD clearance
for SOS International (Commercial MEDEVAC) to land at Ramstein AB,
Germany for patient transfer to Landstuhl Hospital.

Coordination: JSC/SD2/Wyle/M. Chandler/281 212-1358

SUPPLIER: DDMS AGENCY: DDMS/X (DEPARTMENT OF DEFENSE)

SUPPLIER COMMITMENT: WILCO RESPONSE DATE: 11/27/00

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